

PACIFIC PULP & PAPER INDUSTRY

**FEBRUARY
1936**



The Spaulding Pulp & Paper Company of Newberg, Oregon, Keeps on Hand a Stock of 3,000,000 feet of Quality Hemlock Logs

10

**VOLUME 10
NUMBER 2
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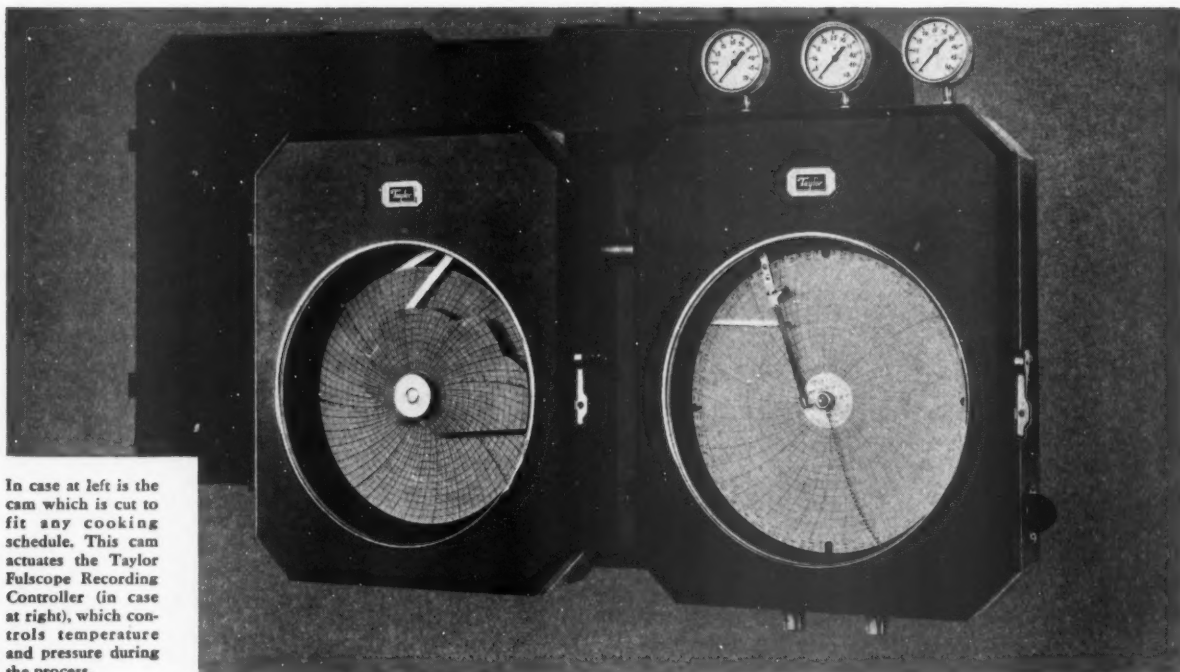
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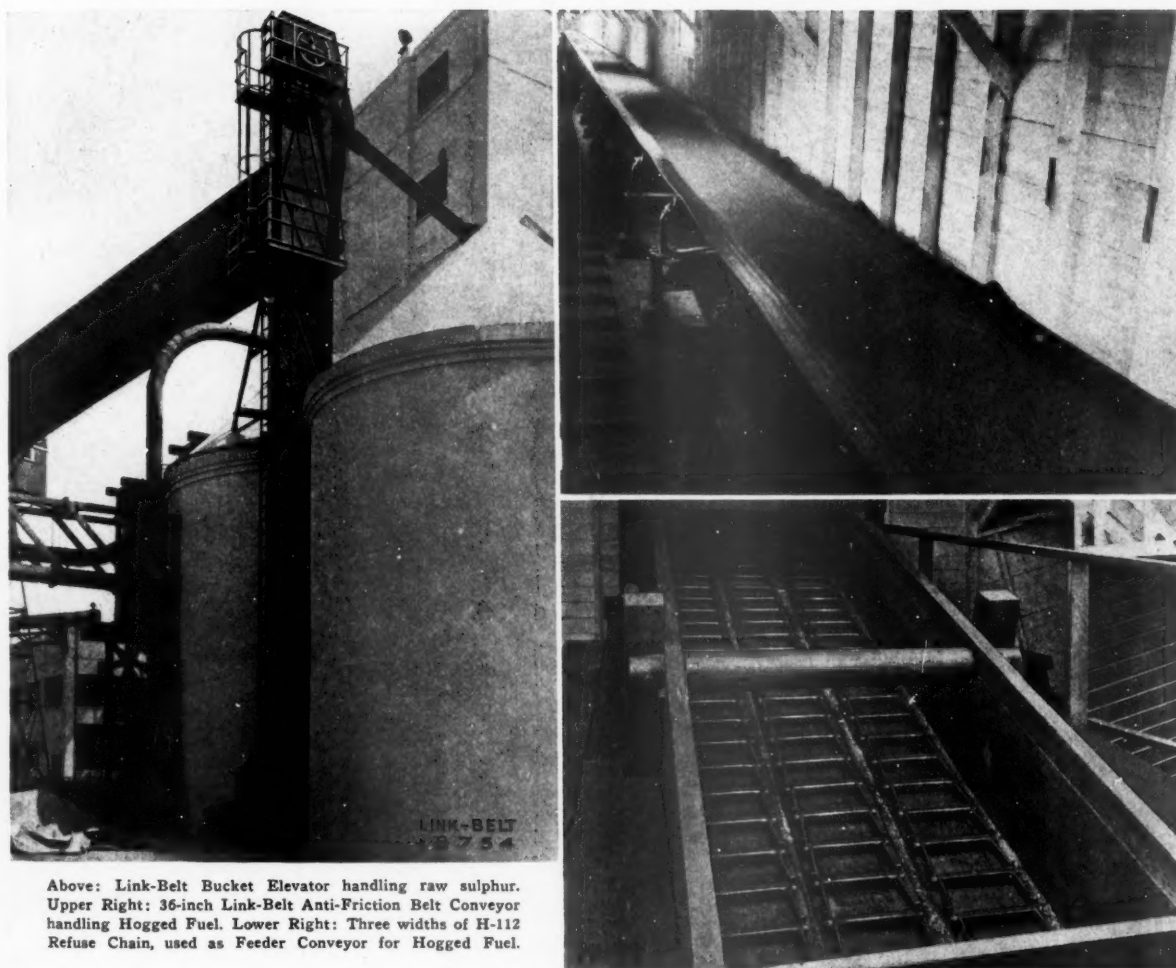
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 Upper Right: 36-inch Link-Belt Anti-Friction Belt Conveyor handling Hogged Fuel. Lower Right: Three widths of H-112 Refuse Chain, used as Feeder Conveyor for Hogged Fuel.

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PACIFIC PULP & PAPER INDUSTRY

The Journal of the Pacific Coast Industry

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FEBRUARY • 1936

NEW FELT and ROOFING PLANT FOR LOS ANGELES

Lloyd A. Fry Roofing Company and Subsidiary, the
Volney Felt Mills, to Start in May

Another new manufacturing and converting plant has come to the Pacific Coast, with the establishment of the Lloyd A. Fry Roofing Co. and its subsidiary, the Volney Felt Mills, Inc., at Compton, Calif., a suburb of Los Angeles.

General offices of the companies are at Chicago, where Lloyd A. Fry, president, makes his headquarters. The roofing company already has plants at Chicago and at Kearney, N. J., the Compton unit making a third. The Volney Felt Mills (formerly the Arrowhead Mills, Inc.) are located at Fulton, N. Y., where 30,000 tons per year are produced, at Mishawaka, Ind., a 5,000 ton unit, and the new Compton plant, which will also produce 5,000 tons per year.

The Compton mill is located in the large structure formerly occupied by the Oil Equipment and Engineering Exposition, covering a total area of 80,000 sq. ft. The machines for felt and roofing paper manufacture are now being installed, and will be operated by the Volney Felt Mills, Inc. The date for starting operations is not definitely known, but is expected to be about May 1 or later.

The products of the Volney company will be converted into roofing by the Fry



LLOYD A. FRY
President
Lloyd A. Fry Roofing Co.,
Volney Felt Mills, Inc.

roofing division. A long list of products will be produced, but the chief items of manufacture will be asphalt roll roofing and asphalt slate surface shingles. Mr. Fry personally developed the process for making the line of roofing papers sold under the trade name of "Invincible."

In connection with the Compton plant will be established a unit of the Trumbull Asphalt Co., an entirely separate and independent company, but which will furnish asphalt for the roofing plant here.

Officers and directors of both the Lloyd A. Fry Roofing Co. and the Volney Felt Mills, Inc., are identical, Lloyd A. Fry being president, R. P. Munger vice president, and H. F. Coleman secretary-treasurer. Gerald Martin is in charge of the felt and roofing paper mill at Compton, and Adolph Paulsen is manager of roofing manufacture. Mr. Fry spends most of his time in Chicago, but is expected to be at Compton part of the time. R. P. Munger is head of the Ohio Paper Co., an affiliated concern at Miamisburg, O.

The felt mill and roofing factory will employ approximately 125 people. The office address of the concern is 1501 No. Tamarind Ave., Compton, Calif.



WEYERHAEUSER SELECTS OPERATING SUPERINTENDENTS FOR NEW EVERETT MILL

Announcement has been made by Mr. G. S. Brazeau, manager of the Everett mill of the Pulp Division, Weyerhaeuser Timber Company, of the selection of Mr. Walter Clough and Mr. James A. Fraser as operating superintendents.

Mr. Clough has been with the Longview mill of the Pulp Division since it began operations in 1931, and he was shift superintendent prior to his transfer to Everett.

Mr. Fraser comes to the Weyerhaeuser organization from the Grays Harbor Pulp & Paper Company of Hoquiam, Washington, where he has been since that mill started operating in 1928. Prior to his connection with Grays Harbor Mr. Fraser was with the Washington Pulp & Paper Corporation at Port Angeles, Washington. Both Mr. Clough and Mr. Fraser have already established residences in Everett.

With Mr. Brazeau's announcement of Mr. Clough and Mr. Fraser as operating superintendents the number of operating men for the new Everett pulp mill announced to date totals four.

Mr. Jerry Alcorn will be technical director and Mr. L. E. Hill, Jr., will be plant engineer. Announcements of the selection of these two men appeared in the December and January numbers of PACIFIC PULP & PAPER INDUSTRY.

The new Weyerhaeuser Everett pulp mill, which will produce the highest quality unbleached sulphite pulp, is rapidly nearing completion under the supervision of Mr. O. C. Schoenwerk, pulp and paper mill engineer, who designed the plant and is in charge of construction.

Finishing touches are being speedily applied. The boiler plant and power house is completed and is being tested. The acid plant has been completed for some time. Lining of the digesters has been finished and the final work is almost done on the erection of the drying machine.



JAMES A. FRASER

The sulphur conveyor was finished February 12th and sulphur is now in storage ready for the starting of operations.

The chipping plant will be finished early in March, the chip storage bins being already completed.

Mr. R. B. Wolf, general manager of the Pulp Division, Weyerhaeuser Timber Company, which embraces the bleached sulphite pulp mill at Longview and the new unbleached sulphite pulp mill at Everett, returned to the Pacific Coast in January after an extended Eastern trip.

ELEVEN MONTHS PULP IMPORTS HIGHER

According to a special report issued by the U. S. Department of Commerce, imports of paper making raw materials during the first eleven months of 1935 attained a total value of \$72,665,250, an increase of 11 per cent over the corresponding period of 1934.

This increase in the value of the aggregate receipts reflects partly an actual rise in the volume of such receipts and partly the fact that increases occurred in the higher priced products. Thus in importations of wood pulp, increases occurred in such items as bleached sulphite, bleached and unbleached sulphate, and soda pulp, while imports of mechanical ground wood and unbleached sulphite declined.

The aggregate wood pulp receipts show a rise of 2 per cent in volume but 12 per cent in value. Similarly, imports of waste are 52 per cent higher in volume but 55 per cent higher in value. Imports for the eleven months comprised \$974,465 cords of pulp wood valued at \$7,342,449, 121,924 tons of rags, old paper and other stock valued at \$3,043,889, and 1,690,415 tons of wood pulp valued at \$62,278,912.



WALTER CLOUGH

U. S. 1935 TRADE BALANCE CUT BY LARGE IMPORTS

Imports increased 24 per cent in 1935 over 1934 while exports gained 7 per cent, according to figures released by the Department of Commerce.

Exports from the United States during 1935 reached a total value of \$2,283,023,000, including \$223,737,000 worth of shipments in December last, while imports for the year were valued at \$2,047,797,000, including \$186,648,000 in December, leaving a favorable trade balance for 1935 amounting to \$234,226,000, compared with a corresponding balance of \$477,745,000 in 1934.

FIBREBOARD AWARDS SERVICE PINS

Four employees of the Sumner, Washington plant of Fibreboard Products, Inc., were awarded service pins at the January 27th meeting of the Pivot Club, an organization of employees who have been with the company five years or more.

Charles Ferguson and Vernon Buchanan each received pins for twenty years continuous service. Carl Morgan earned a ten year pin and Harry McBride a five year pin.

WASHINGTON PULP BUILDS WAREHOUSE ADDITION

The Washington Pulp & Paper Corporation of Port Angeles is constructing an addition to its warehouse which will increase the capacity by about 6,000 tons.

The addition is being built at the west side of the old warehouse near the mill cafeteria.

CROWN - WILLAMETTE DECLARES DIVIDEND

Directors of the Crown-Willamette Paper Company have declared a dividend of \$1 per share on the first preferred stock, payable February 15th to stockholders of record February 8th.

This dividend will reduce dividend arrearage to \$10.25 per share.

INSTALLING FUEL OIL TANK

Grays Harbor Pulp & Paper Co., Hoquiam, Wash., is building a 35,000 gallon fuel oil storage tank. This tank will hold sufficient fuel oil to operate the plant for 30 days and will permit discharge direct from tankers berthed at the plant dock. Oil is used as fuel when no hog fuel is available.

B. C. RAISES WATER RATES

The British Columbia government proposes to change the scale of rates charged to pulp and paper manufacturers for the use of water.

Regulations are being amended, providing for lower fees and rentals for water used in washing pulp, but higher rates on water used for power purposes.

For twenty-one years special rates have been in force in agreements between the government and Powell River Company and Pacific Mills, Ltd. Renewal of the agreements is pending in both cases. The province of British Columbia will receive \$4,000 less for the use of water for pulp washing, but \$20,000 more for the use of water for power purposes.

For pulp washing the new rate will be \$10 per cubic foot per second, yearly, in place of \$1 per 10,000 gallons.

D. R. CHARLESON RETURNS

Mr. D. R. Charleson has returned to his home in Aberdeen after an extended trip to the East and through the Southern states.

JIM RAMSEY DIES SUDDENLY

Mr. James G. Ramsey, affectionately known as "Jim" to hundreds of paper makers throughout the United States, died suddenly of a heart attack at 3:30 on the morning of February 13th, at his home in Lowell, Washington.

Although Mr. Ramsey had been on the Pacific Coast but three years, as general superintendent of the Everett Pulp & Paper Company, his genial personality had made him many friends who were saddened by his unexpected passing.

Born fifty-six years ago in Pennsylvania, Mr. Ramsey received his early training in the machine shop of the Alan Wood Iron & Steel Company of Conshohocken, Pennsylvania, where he learned among other things the correct way of turning paper machine rolls. This work interested him in paper making, so he went to work for W. C. Hamilton & Sons of Miquon, Pennsylvania, where he remained for sixteen years.

It was there that he learned the fundamentals of paper making. From Miquon, Mr. Ramsey went to Loudville, Massachusetts where he became superintendent for the Hampton Paper Company. Later he joined the Chemical Paper Company of Holyoke as superintendent and after a few years became superintendent and general manager for Dill & Collins.

Mr. Ramsey was also at one time superintendent and manager of the Jessup & Moore organization at Wilmington, Delaware, and production manager for the

Cherry River Paper Company of Richwood, West Virginia.

In 1933, Mr. Ramsey came to the Pacific Coast as general superintendent for the Everett Pulp & Paper Company. His broad experience in the manufacture of many different types of paper fitted him for his work in Everett.

He was always active in the affairs of the American Pulp & Paper Mill Superintendent's Association and served a very successful term as president in 1930. Mr. Ramsey also took a deep interest in the work of TAPPI especially since he came to the Pacific Coast. He attended the dinner meeting in Everett the evening of February 4th and took part in the discussions with his usual vigor.

Mr. Ramsey is survived by his widow, Mrs. Cora E. Ramsey; three sons, James G., Jr., Marshall W., and Clair S. Ramsey, all of whom are married and reside at Lowell. He is also survived by three brothers, David and Thomas Ramsey of Spring Mill, Pennsylvania, and Robert Ramsey of Conshohocken; and three sisters, Mrs. Mary Irvin of Coin, Iowa, Mrs. Eliza J. Hastings of Spring Mill, Pennsylvania, and Mrs. Sally Harkins of Norristown, Pennsylvania.

Mr. Ramsey was a member of the following Philadelphia lodges: Roxborough Lodge, No. 135 F. & A. M.; Scottish Rite Philadelphia Consistory; Lu Lu Temple A. A. N. O. M. S.; Roxborough Lodge No. 66; I. O. O. F.; Washita Tribe No. 53, Imperial Order of Redmen.

GRAUSTEIN RESIGNS FROM INTERNATIONAL

Resignation of Archibald R. Graustein as president and director of International Paper Company and International Paper & Power Company and from all other subsidiaries, announced February 4, was learned with considerable interest in Pacific coast newspaper circles.

Probably no one individual played a more influential role in the newsprint industry in the last decade than Mr. Graustein, the lawyer who worked his way to the domination of the world's biggest newsprint corporation controlling assets reckoned in hundreds of millions. For several successive years International set the production pace for the industry and also set the price by entering into negotiations with large consumers early in the season and because of the enormous tonnage controlled virtually dictating the figure at which all mills would sell.

No explanation of Mr. Graustein's action was given at the meeting of the board of directors at which the resignation was announced, but it was said that one would be shortly forthcoming. At the last annual meeting of International Mr. Graustein was under fire from some shareholders who questioned the justification for his income from the company. Supporters of Mr. Graustein argued that International had been largely a "one-man concern" insofar as major policies were concerned and that through Mr. Graustein's shrewd management several companies that had been merged with International had been saved from bankruptcy.

Mr. Graustein, whose home is in New York City, was born in 1885 and practiced law for many years in Boston before being named head of International, con-

trolling vast pulpwood holdings, power resources, power plants, newsprint and pulp mills in Canada and the United States.

CULLEN SUCCEEDS GRAUSTEIN AS HEAD OF INTERNATIONAL

Mr. R. J. Cullen, president of the Southern Kraft Corporation, was elected February 4th to the presidency of the International Paper Company to succeed Mr. A. R. Graustein who recently resigned.

At a meeting of stockholders held in Salem, Oregon, January 23rd, Mr. F. W. Leadbetter, president of the Oregon Pulp & Paper Company reported the company had made a net profit of \$124,470 for 1935, after deductions for bond interest, taxes, depreciation and other charges.

The statement was qualified by Mr. Leadbetter who said the report was preliminary as the auditors had not completed their final checking.

The 1935 profit represents an increase of \$73,444 over the 1934 profit of \$51,026.

Mr. Leadbetter told the assembled stockholders that the company's ratio of current assets to current liabilities of 5.3 to 1 is the best in the history of the Oregon Pulp & Paper Company.

Current assets at the end of 1935 were reported at \$1,105,469 compared with \$999,135 at the end of 1934. Current

SPAULDING RUNNING STEADILY

Superintendent J. B. Wilt reports that the Spaulding Pulp & Paper Company's mill at Newberg, Oregon, is running at capacity.

Number three wet machine was recently finished and screenings and tailings are now being run over it, relieving the pressure on the other two wet machines. The addition of the third wet machine has increased production slightly and is enabling the Spaulding mill to produce cleaner pulp.

One hundred and twenty screen plates with eight slots to the inch were ordered recently from the Union Screen Plate Company of Fitchburg, Massachusetts.

One digester was relined late in December by the Stebbins Engineering and Manufacturing Company.

HAWLEY NEWS

Manager Carl Braun of the Hawley Pulp & Paper Company, Oregon City, Oregon, reports the installation in January of a Impco saveall on number one paper machine. This was manufactured by the Improved Paper Machinery Company of Nashua, N. H.

Heavy rains caused the Willamette River to rise so high that operations in the Hawley mill, with the exception of the electric groundwood mill, were suspended for a week from January 12th.

Ivan Hoskins was recently appointed chief electrician. Fred Weleber, in charge of technical control, has also been given supervision over the beater room.

Number one digester was recently relined by the Stebbins Engineering and Manufacturing Company.

UNO FRYKLUND IN ENGLAND

Mr. Uno Fryklund, chief chemist for the St. Helens Pulp & Paper Company at St. Helens, Oregon, left St. Helens early in November for a visit to his former home in Gransholn, Gemla, Sweden.

Mr. and Mrs. Fryklund drove through the South visiting a number of kraft mills before sailing from New York.

After a visit in Sweden they went to England where Mr. Fryklund is now associated with Edward Lloyd, Limited, Sittingbourne, Kent.

OREGON PULP EARNINGS IMPROVE

liabilities at the close of 1935 were \$206,352 as against \$303,779 at the end of 1934. Cash on hand rose from \$168,944 at the close of 1934 to \$266,837 at the end of 1935.

Production increased 5510 tons over 1934 and the sales volume increased \$424,266.

In answering questions as to when dividends could be expected on the preferred stock, Mr. Leadbetter said that he could make no prediction as the payment of dividends depended upon business conditions in the future.

The Oregon Pulp & Paper Company has a standstill agreement with bondholders under which principal payments have been held up for four years. This obligation must be paid before preferred dividends will be available from earnings.

All directors were reelected for 1936.

TAPPI HOLDS DINNER MEETINGS AT PORTLAND AND AT EVERETT

A well attended dinner meeting of members and friends of TAPPI in the Portland area was held at the Multnomah Hotel in Portland on the evening of January 28th.

This was the first of the regional evening meetings sponsored by the Pacific Section as part of its plan to bring the benefits of group discussions to the maximum number of pulp and paper mill men on the Pacific Coast. The regional meetings, as was exemplified at Portland, where almost one hundred were present, afford an opportunity for many to attend who might not be able to get away from the mills a long enough time to attend the longer daytime conventions.

"It is not the purpose of these meetings to hold to formal, rigid lines," said W. R. Barber, chairman of the Pacific Section, who presided. "We want all interested in the subjects discussed, or which may be discussed, to attend. The meetings are open to all interested in the pulp and paper industry whether members of TAPPI or not."

Robert L. Stevens explained the functioning of the moisture register for determining instantaneously the moisture in pulp and described the machine being built to do the same work for paper. He repeated, in the main, his address which was printed on page 17 of the December PACIFIC PULP & PAPER INDUSTRY.

Dr. R. E. Brown, Rainier Pulp & Paper Co., Shelton, Wash., presented moving pictures showing how rayon is manufactured and afterwards discussed the methods employed. A digest of his talk will be found on page 16 of the January PACIFIC PULP & PAPER INDUSTRY.

The Fair process of filling paper was discussed briefly by Walter L. Glass, of the Economy Filler Processes, St. Catharines, Ont. He claimed that by means of the process it has been possible to increase retention of filler in newsprint up to almost 90 per cent.

In the East the bakers have set up a loud and insistent demand, according to Mr. Glass, for a more opaque bread wrap, and in producing a paper of this type the process has been of material aid. It has also opened the possibility of developing new grades and the making of the wire of a one side coated sheet.

No list was made of those who attended at Portland.

THE EVERETT MEETING

The second regional dinner meeting of the Pacific Coast Section of TAPPI was held Tuesday evening, February 4th, at the Hotel Monte Cristo in Everett, Washington. Of the sixty who attended a number came from pulp and paper mills considerable distance from Everett.

THE NEXT TAPPI DINNER MEETING

will be held Tuesday evening, March 3rd, at Port Angeles, Washington. Mr. Robert E. Bundy, manager of the Port Angeles mill of Fibreboard Products, Inc., will be in charge of arrangements.

Three of the four officers of the Pacific Coast Division of the American Pulp & Paper Mill Superintendent's Association were present; Mr. George W. Brown, chairman and superintendent for the Inland Empire Paper Company of Millwood; Mr. George Cropper, first vice-chairman and superintendent of the Olympic Forest Products Company of Port Angeles; and Mr. H. A. Des Marais, secretary-treasurer, of Portland.

A large number of the younger men of the Everett mill organizations were present thereby realizing one of the objectives sought by TAPPI chairman W. R. Barber, who organized the regional dinner meeting program to make it possible for a larger group of younger men to benefit from attending the technical meetings.

The successful Everett dinner was arranged by Mr. Leo S. Burdon, manager of the Soundview Pulp Company of Everett.

Chairman Barber opened the meeting by reading a humorous sketch on the value of a research department, which produced much laughter. The sketch, taken from Punch, was also read at the Portland meeting, January 28th, and is printed in this issue of PACIFIC PULP & PAPER INDUSTRY.

Dr. Henry K. Benson, head of the Department of Chemistry of the University of Washington was introduced by Chairman Barber. Dr. Benson briefly outlined the possibilities of additional service to the pulp and paper industry by his department when the new chemistry building is completed next December.

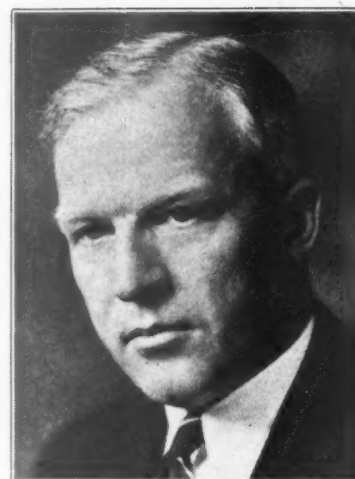
ANNOUNCE JOINT MEETING

A joint Spring meeting of the Pacific Coast Division of the American Pulp & Paper Superintendent's Association and the Pacific Section of TAPPI has been decided upon by the executive committees of the two associations.

The time and place will be announced later.

Undergraduate work in chemistry and chemical engineering will be made more effective by the new facilities afforded through the new building. But, Dr. Benson emphasized, the greater value to the pulp and paper industry will be through the increased opportunities for graduate work, particularly in the fundamental studies of the chemistry of wood and its components, cellulose and lignin.

Dr. Benson told those at the TAPPI dinner that it was the plan of the Department of Chemistry to bring outstanding men in cellulose and lignin chemistry to the University of Washington to study Pacific Coast pulp woods with the objective in view of uncovering knowledge of the pulp and paper industry's raw material that is unknown today. The study of the chemistry of lignin is one of the principle aims. The equipment of the new chemistry building will permit thorough studies of the fundamentals of wood chemistry.



LEO S. BURDON

Manager of the Soundview Pulp Company, who arranged the Everett dinner meeting.

Appreciation was expressed by Dr. Benson of TAPPI's help in planning and equipping the new laboratories through the appointment of a special committee announced in the January issue of PACIFIC PULP & PAPER INDUSTRY. Mr. W. R. Barber appointed on this committee Mr. J. E. Ryberg, Mr. Norman Kelly, Mr. Norman Gibbs, Dr. E. C. Lathrop, and Mr. James P. V. Fagan. (Details of the new University of Washington chemistry building were published in the December number of this journal.)

Dr. Paul Bovard's Talk

Dr. Paul Bovard of San Francisco was introduced by Chairman Barber. Dr. Bovard spoke on the subject of slime in pulp and paper mills.

Dr. Bovard, a graduate of the University of California, is an expert on water purification and the bacteriological treatment of water in industrial plants.

Together with Dr. T. B. Beckwith of the University of California he took out the first patents on the use of chloramines for sterilizing white water circuits. Formerly associated with Mr. Kenneth Shibley of Seattle in the California Filter Company, Dr. Bovard is now a practicing consulting engineer of San Francisco.

Dr. Bovard summarized his talk for PACIFIC PULP & PAPER INDUSTRY as follows:

"Until seven years ago there were few recorded discussions on the nature of slime and its effect on pulp and paper operating conditions.

"At the 16th annual New York meeting of TAPPI the committee on water problems discussed stock losses from bacterial slime. They also discussed the possibility of a correlation existing between the presence of slime and unexplained pH irregularities, obstructed screens, clogged felts and stock losses in white water.

"Chlorine had been tried with various degrees of efficiency, but the nature and properties of the slime had not as yet been analyzed. The questions were asked by the committee as to whether slime was algaean fungi or bacterial growth? What

was to be expected of chlorine application? Where should it be applied? Where was the source of the infection?

"Laboratory studies of the slime revealed a large variety of flora at the base of large accumulations. Capsule forming bacteria were indicated. Fungus is a secondary growth on the mechanical structure built by life cycle of capsulating forms. Metabolism of capsule forming bacteria requires the presence of available carbohydrate. Control studies in the absence of carbohydrate lacked growth. Agar with Sabourauds medium rich in carbohydrate, such as glucose, gave parallel results with plant conditions. The nature of the basic organism is *B. Aerogenes*.

Water Primary Source of Infection

"The water supply is primarily the source of infection for a pulp or paper mill. Its tendency to infect the mill systems will be enhanced by the presence of saprophytic and parasitic organism furnishing protein food for further bacterial infections. The organisms exist in a symbiotic state and thrive in both aerobic and anaerobic environment. Zooglea jellylike masses form their film in stock and water lines. The bacterial structure becomes host for fungi present in moist atmosphere or present in the original wood. Fungus sporulates and survives while capsule forms disappear in their own acid by-products.

"The bacterial mass has a variety of reactions—

Reduce nitrates to nitrites
Reduce H₂S—on lead acetate medium
Form acid with gas with glucose, sucrose, maltose, galactose.

"There is more proliferation at temperatures 30 to 37 degrees Centigrade or lower. The presence of microspora desulfuricans accounts for the black slime in wood flumes, and steel and iron pipe lines. The bacteria reduce both iron and sulphur forming iron sulphide.

"Bacteria are not thermophilic, therefore they thrive at lower temperature in white water circuits.

Sterilization

"Sustained tonic effects are necessary to sterilize these forms. Chlorine alone with high oxygen potentials is not effective due to reaction with cellulose stock. Chloramines are on the other hand selective on bacterial organisms permitting residual chloramine in presence of the stock in the white water.

"No practical concentrations of the sterilizing agent can effectively penetrate heavy masses of slime. After cleaning, circuits of low stock consistency should be chosen for application of chloramine to inhibit the basic capsule forming bacteria, which builds a structure supporting heavy fungus growth. Chloramine reactions were presented."

His talk was followed by questions concerning the slime problems and methods of avoiding slime and removing it.

Mr. Earl Thompson, secretary-treasurer of the Pacific Section of TAPPI, announced that the payment of 1936 TAPPI dues was in order and that he would be pleased to accept money from the members present.

At a joint meeting of the executive committees of the Superintendent's Association and of TAPPI prior to the dinner it was decided to hold a joint Spring meeting, the time and place to be announced later.

Following are those who attended the Everett dinner meeting:

Jerry Alcorn, Pulp Div. Weyerhaeuser Timber Co., Everett, H. N. Allen, Allis-Chalmers Mfg. Co., Seattle, John Ashby, Westminster Paper Co., New Westminster, B. C., W. R. Barber, Crown Willamette Paper Co., Camas, H. K. Benson, University of Washington, Seattle, M. H. Bennett, Stebbins Engineering Co., W. L. Beuschlein, University of Washington, Seattle, Myron Black, Inland Empire Paper Co., Spokane, Paul F. Bovard, Consulting Engineer, San Francisco, George W. Brown, Inland Empire Paper Co., Spokane, R. S. Buckley, Weyerhaeuser Timber Co., Everett, F. A. Buckley, Everett Pulp & Paper Co., Everett, Leo S. Burdon, Soundview Pulp Co., Everett, John M. Carlson, Soundview Pulp Co., Everett, Robert Carlson, Pulp Div., Weyerhaeuser Timber Co., Everett.

R. E. Chase, Tacoma, Andreas Christensen, B. C. Pulp & Paper Co., Vancouver, B. C., Sidney M. Collier, Soundview Pulp Co., Everett, N. W. Coster, Soundview Pulp Co., Everett, J. V. B. Cox, Paper Makers Chemical Corp., Portland, George Cropper, Olympic Forest Products Co., Port Angeles, Dan Duggan, Everett Pulp & Paper Co., Everett, Erik Ekholm, Puget Sound Pulp & Timber Co., Bellingham, Eric Ericsson, Puget Sound Pulp & Timber Co., Bellingham, James I. Fitch, Everett Pulp & Paper Co., Everett, E. J. Flateboe, Sumner Iron Works, Everett.

O. E. Fox, Pulp Division, Weyerhaeuser Timber Co., Everett, George C. Gladding, Soundview Pulp Co., Everett, William B. Gorbitt, Soundview Pulp Co., Everett, Kon Hall, Improved Paper Machinery Co. & Noble & Wood, Portland, D. Hamilton, Pulp Division, Weyerhaeuser Timber Co., Everett, L. E. Hill, Jr., Pulp Division, Weyerhaeuser Timber Co., Everett, W. A. Kelly, Portland, K. A. Kobe, University of Washington, Seattle, F. E. Kurz, Oliver United Filters Inc., Chicago, P. F. Lueth, Sumner Iron Works, Everett, A. H. Lundberg, G. D. Jensen Company & Chemipulp Process, Seattle, H. A. Morrison, Oliver United Filters Inc., New York City, Joseph J. Murphy, Everett Pulp & Paper Co., Everett, E. A. Norton, Pulp Division, Weyerhaeuser Timber Co., Everett, A. Orup, Soundview Pulp Co., Everett, R. I. Thieme, Soundview Pulp Co., Everett.

A. S. Quinn, Stebbins Engineering Co., Seattle, J. G. Ramsey, Everett Pulp & Paper Co., Everett, Carl A. Ramstad, Soundview Pulp Co., Everett, C. E. Ridgeway, Soundview Pulp Co., Everett, S. A. Solomonson, Soundview Pulp Co., Everett, G. B. Schetky, Pulp Division, Weyerhaeuser Timber Co., Everett, A. J. Schmitz, Allis-Chalmers Mfg. Co., Seattle, Harlan Scott, Pacific Pulp & Paper Industry, Seattle, J. M. Shedd, Everett Pulp & Paper Co., Everett, Kenneth Shibley, Shibley Company, Seattle, P. R. Smith, Everett Pulp & Paper Co., Everett, H. V. Tartar, University of Washington, Seattle, Earl G. Thompson, Great Western Electro-Chemical Co., Seattle, Adolph L. Winklesky, Everett Pulp & Paper Co., Everett, R. B. Wolf, Weyerhaeuser Timber Co., Pulp Division, Longview, H. A. Des Marais, General Dyestuff Corp., Portland.

BARBER ATTENDING TAPPI MEETING

Mr. W. R. Barber, technical supervisor of the Crown-Willamette Paper Company, Camas, Washington, left early in February on a three weeks' eastern trip during which he will attend the meeting of the Technical Association of the Pulp and Paper Industry at the Waldorf-Astoria hotel in New York City, February 17th and 20, inclusive.

CHARTERS AND OSTENSON EAST

Mr. George W. Charters, assistant manager, and Mr. H. E. Ostenson, paper mill superintendent of the Crown-Willamette Paper Company, Camas, Washington, spent several weeks during January in the Middle West and East visiting a number of paper mills.

DES MARAIS ATTENDS NEW ENGLAND TAPPI MEETING

Mr. H. A. (Gob) Des Marais, secretary-treasurer of the Pacific Coast Division of the American Pulp & Paper Mill Superintendents' Association, attended the meeting of the New England section of TAPPI at Holyoke, Massachusetts, on January 17th, while East on a month's trip.

William E. Breitenbach, chemist of the Grays Harbor Pulp & Paper Co., Hoquiam, Wash., recently addressed the Kiwanis club of that city, describing how paper is made.



ERIK FERNSTROM RETURNS FOR VISIT

Erik Fernstrom, who left the California Fruit Wrapping Mills at Pomona, Calif., last year and returned to Sweden to make his home, arrived back at the mill the middle of January for a visit of about two months.

Up to the time he left Stockholm, the winter had been very disagreeable, with much rain and fog, and little snow, and Mr. Fernstrom expressed himself as very glad indeed to be back in Southern California again for a while.

Conditions in the industry in Sweden are very good, he reported. "The pulp and paper industry in Scandinavia is prosperous," he said, "both sulphite and kraft paper mills are enjoying better business than six months ago. And newsprint plant have, of course, been working full time."

"The sulphite pulp situation is firmer, although prices are still fairly low. The general feeling is that the future is rather promising. Kraft pulp conditions are decidedly better; the statistical sales situation is very favorable, and prices on some grades went up \$1 or \$2 per ton recently."

"In regard to the sulphite industry, the price for strong sulphite pulp has recently increased in the international market, by five Swedish krona per ton. This price increase does not affect the United States, where the price on Scandinavian pulp has been higher than on the international market."

Mr. Fernstrom will return to Sweden some time in March, but expects to come back to this country in the fall for a longer stay. His address in Sweden is care of Fernstrom & Co., A/B, Stockholm 16.

AUSTRALIAN VISITS COAST

Mr. Wiley E. Cohen of the Division of Forest Products Council for Scientific and Industrial Research of Melbourne, Australia, visited several Pacific Coast mills during January on his way to the Forest Products Laboratory at Madison, Wisconsin.

INLAND EMPIRE INCREASES CAPITALIZATION

The Inland Empire Paper Company of Millwood (Spokane), Washington, filed notice January 2nd of an increase in capital from \$2,000,000 to \$2,272,376.

BUSINESS FOR PLEASURE

"Once we lost our turnip crop
While he was inventing a gun."
—Bill Grubbins."

It is not absolutely necessary to have a research department—at least, not one of your own. In fact, probably the most efficient and economical type of research department is to have an employee whom you can really trust working in the research department of your principal competitor.

Moreover, not every type of business calls for research, because—

(1) In some businesses there isn't really much left to find out. It would be a waste of money, for example, to have a perfectly equipped research laboratory if you are making hansom-cabs.

(2) Research is a long-time affair, and in some types of business the long term may only come after the business has come to an end. It is useless to set a research department to work on some deep technical problem in the manufacture of say, shoelaces, since in twenty years' time when the problem is finally solved, you may be—

- (a) making wall-paper;
- (b) in liquidation;
- (c) in for life.

On the other hand, if there seems to be any likelihood that your business will go on and become an Old Established Concern, money spent on technical research may be a very real investment. Nay, more, it will probably be an Absolutely Typical Investment, since—

- (a) it costs a lot;
- (b) it never pays a dividend;
- (c) if you get tired of it you can't sell it.

How To Run A Research Department

(1) In dealing with all research problems the greatest desideratum is Patience. The greatest of all the research problems is the people who do the research, and in dealing with them Patience is not only a virtue but a necessity. Remember that the research worker's motto is: "Rome was not built in a day, and we don't

work nightshifts." So the three-hundred-and-sixty-six days of Leap Year when the research department doesn't discover anything are presumably some of the days when Rome was not built.

(2) It is worse than useless to point out to the research department that sales are falling, that profit margins are non-existent, and that they haven't turned out a new idea for fifteen years. You can't expect them to be interested in your beastly sordid business. They are scientists, and you can't hurry science. It was precisely to avoid being worried by this sort of nonsense that they become research workers.

(3) Resist the temptation to ask the research department what the blazes is the use of anything it is doing. There are at least six very crushing replies which research people keep for those who ask this question: "Sir," as Faraday said to Mr. Gladstone, "Can you tell me the use of a newborn child?"

So, if you are making straw-hats and you find your research department deeply engrossed in inventing a new ferro-chrome alloy, just be quietly encouraging and go away. Who knows? If war broke out you might be able to turn the place into a steel-helmet factory and make a fortune.

(4) If you are going to have a research department at all, go the whole hog and enter into the spirit of the thing. Build a laboratory and place in it a lot of bottles and benches. Then collect a few people from the universities with first class honor degrees in chemistry (they are quite cheap at the summer sales). Turn them loose in the laboratory and leave them. For a few days they will probably wander restlessly round, scratching at the doors and howling. But after a while they will settle down and start bending glass tubing and filtering things perfectly happily. And you will be able to show them to visitors, which is a nice thing to be able to do.

(5) Try not to interrupt the research department with petty matters. It is a common mistake when some technical problem arises for the managing director

to say, "Well, why shouldn't we get the research people in on this? After all, what are they for?" Now this not only shows an entire lack of understanding of the meaning of research, but it is liable to cause difficulties. For with problems of this kind an answer is usually required quickly,—say before the following winter. And when we consider that the research department will have to set to work and bend special glass tubing and filter Heaven knows what before it can begin, it is clear that to demand an answer to a question before next winter is very like trying to build Rome. . . .

It is far better, if one needs a quick answer on some technical problem, to get a roughly approximate one from old Joe Binks the foreman, who hasn't the disadvantages of a scientific education. Give the research department only big, long-term problems and leave the results in trust for your heirs.

To sum up, the following are the main advantages and disadvantages of a research department:

- (1) It does no harm.
- (2) Visitors and shareholders are impressed by the sight of so much science and the smell of so much sulphuretted hydrogen.
- (3) It provides congenial employment for a number of people who otherwise would infallibly be reduced to teaching small boys that—
 $2HCl + Zn \rightarrow ZnCl_2 + H_2$.
- (4) One of these days someone may find out something which will Make All the Difference to your business. The thing is at least statistically possible.
- (5) Scientists are usually nice, quiet lads without vice.

Disadvantages

- (1) Cash.
- We cannot visualize any business man, comparing the advantages with this single impediment, being in any doubt as to what he should do. Money isn't everything, and you can always get somebody to come down and open the Research Block.

With acknowledgement to "Punch," September 18, 1935, from which issue the above is reproduced.

THE MEEHAN PROJECT

Anticipating establishment of a rayon manufacturing industry in the lower mainland of British Columbia with the use of Cheakamus waterpower, Japanese interests have commenced negotiations with the J. P. Meehan Company for pulpwood.

"We are not particularly interested in these inquiries," said Mr. William Meehan, representing the J. P. Meehan Company. "If the deal for Cheakamus power goes ahead and we build our mill we will be looking for a market for rayon pulp and not for wood."

At present, negotiations regarding the rayon pulp mill are held in abeyance because of the delay of the Vancouver city council's public utilities committee in dealing with the matter. Mr. Meehan said that survey of the Nimpkish watershed on Vancouver Island had been completed, but the Cheakamus as a source of power is regarded as preferable. He added that a new survey had shown Cheakamus capable of producing at least 100,000 horsepower.

CANADIAN VIEW OF THE TRADE TREATY

Signing of the reciprocal trade agreement between the United States and Canada ended a long period of uncertainty in British Columbia pulp circles regarding exports to the United States.

"Before the agreement was signed American buyers were hesitant to place orders for Canadian pulp because of the danger of sudden imposition of a duty," said an executive of one British Columbia company. "Under the terms of the new pact they feel secure, and it is probable that there will be a steadier flow of business. Although there were no restrictions on Canadian pulp before the agreement, Canada did have a 25 per cent tariff on pulp and President Roosevelt had authority to slap on a tariff up to that point whenever he felt that conditions warranted such action. Now that Canadian pulp has been definitely put on the free list the whole atmosphere has been cleared."

JORGENSEN OPTIMISTIC

Business conditions show a noticeable pickup in the east, according to Oscar A. Jorgenson, assistant manager of B. C. Pulp & Paper Company, who recently returned to Vancouver head office after a six weeks' business trip that took him to New York, Chicago, Montreal and other centers.

The new trade agreement between Canada and the United States will be of considerable value to the pulp industry in British Columbia, he believes, and he found that in most sections of the country visited the agreement was regarded as more than a mere gesture for increased business all round.

LONGVIEW FIBRE INSTALLS TURBINE AND GENERATOR

A 2000-kw. Moore steam turbine and a Westinghouse generator were recently installed in the Longview Fibre Company's mill at Longview, Washington. The turbine operates on back pressure from 185 pounds down to 40 pounds.

RAYON PRODUCTION ATTAINS NEW HIGH IN 1935

Due to the steadily increasing use of Pacific Coast high quality bleached sulphite pulp in the manufacture of rayon yarns, data on the 1935 production of rayon and the prospects for 1936 are of decided interest.

Production of rayon in the United States made its greatest single year's gain in 1935 with an estimated increase of 40,000,000 pounds over 1934. The 1935 production is said to have topped 250,000,000 pounds, representing a gain of more than 25 per cent over the previous year.

Mr. L. A. Yerkes, president of the Du Pont Rayon Company, is quoted in the January number of Rayon and Melliand Textile Monthly as saying:

"The outlook for the year ahead is favorable after the substantial gains of last year. We may experience a period in which these gains must be consolidated before pushing on to higher levels. However, the industry has always been successful in finding new markets whenever the older ones seemed fully satisfied. Because it is a man-made product, rayon can still be perfected to enter markets which would open new fields of opportunity in the future. When it is remembered that total rayon consumption during the depression has reached a volume double that of 1929, it is logical to expect that the forces which have made this increase possible will be successful in creating further gains during a period of recovery."

Estimated 1935 world rayon production is as follows:

	Pounds
United States	254,000,000
Japan	220,000,000
Italy	140,000,000
Germany	115,000,000
Great Britain	110,000,000
France	60,000,000
Others	105,000,000

The same publication goes on to say the following about 1935 rayon production and about the prospects for 1936:

"To account for this remarkable showing (the 25 percent increase in 1935 over 1934 in this country) it is important to note that rayon is a fiber that is not subject to speculative price manipulation. It is meeting the requirements of modern textiles in appearance, adaptability and reasonableness in price of the finished products. Such a combination has kept the industry on its course, with ever expanding home markets, and an acceptance by the consuming public based upon satisfactory service.

"Upon entering the new year there is no danger of a drop in the domestic production or in the marketing of the products made either entirely of rayon or in combination with rayon yarn, if the home market is protected against excessive importation from low wage countries in Europe and Asia. The inroads that have been made upon the American cotton industry show that vigilance must be exercised to prevent a similar situation from affecting rayon.

"With an installed capacity of 270,000,000 pounds in the United States this year, the industry continues foremost in the world from the productive point of view, with practically no export outlet and

therefore dependent upon the domestic textile industry to take its output."

According to estimates made by the International Statistical Bureau the world production of rayon in 1935 reached 1,025,000,000 pounds, the output having more than doubled since 1929 when the world production was estimated at 400,000,000 pounds.

On the other hand raw silk production has been decreasing from a world production of 108,000,000 pounds in 1929 to 69,000,000 pounds in 1935.

PRODUCTION OF CELLULOSE PLASTICS EXPANDED IN 1935

The production of cellulose acetate plastics in the first ten months of 1935, January 1st through October 31st, increased 119.1 percent over the same period of 1934. Production in the first ten months of 1935 totalled 9,556,000 pounds as compared with 4,361,000 pounds in the same period of 1934.

Nitro-cellulose plastics production expanded 30.8 percent in the first ten months of 1935 with a total of 14,749,000 pounds compared with 11,271,000 pounds in the similar 1934 period.

In November, 1935, 1,265,000 pounds of cellulose acetate plastics were produced as compared with 304,000 pounds in November, 1934. In the same month of 1935 1,301,000 pounds of nitro-cellulose plastics were produced while production in November, 1934, amounted to 948,000 pounds.

The above information is taken from a table entitled "Production and Consumption Data for Chemical-Consuming Industries," appearing in the January, 1936, number of Chemical & Metallurgical Engineering.

Tremendous expansion in the demand for cellulose plastics during 1935 explains the great amount of research effort expended in developing methods of commercially utilizing wood pulp in the production of cellulose acetate and cellulose nitrates.

PROGRESS MADE BY ST. REGIS PAPER COMPANY IN 1935

Stockholders of the St. Regis Paper Company at the annual meeting in Watertown, N.Y., acted favorably on the proposal to lower the par value of the common stock from \$10 to \$5 a share and thereby reduce the common capital stock by \$20,625,000.

The company now has authorized capital stock of \$47,500,000, consisting of 100,000 shares of preferred, par \$100 each, of which 44,283 shares are outstanding, and 7,500,000 shares of common stock, par \$5 each, of which 4,125,000 shares are outstanding.

Roy K. Ferguson, president, told stockholders that the company made definite progress in 1935, but that the improvement was not sufficient to enable the company to report a profit after deducting all charges, including depreciation.

"Sales of heavy-duty paper bags increased substantially in 1935 over 1934 and a better condition in the building industry gives an improved outlook to the sales prospects in the bag division for cement, lime, plaster and other rock products," he said.

R. D. KEHOE VISITS COAST MILLS

Mr. R. D. Kehoe, president of Paper & Industrial Appliances, Incorporated, of New York, accompanied by Mrs. Kehoe, spent most of the month of January on the Pacific Coast.

Upon his return to New York, Mr. Kehoe wrote the following interesting letter to PACIFIC PULP & PAPER INDUSTRY:

"I visited the Pacific Coast mills in 1931, and have just returned from about a month's stay out there. Looking back over this last trip, and thinking of conditions in 1931, I must say a lot of praise is due for progress made. The coast has certainly settled down to its stride of orderly progress. I recall the many wild-cat schemes of the old days when every sawmill was going to be converted into a pulp mill. Now one hears of the progressive additions to established mills which have proven their economic position in relation to wood supply, and whose staff of operating and technical men has been built up to progressively take on the problems of greater production.

"I understood that when some of the fellows from the East visited the Coast with TAPPI in 1934, they were agreeably surprised. Certainly the progress made in selection of woods, cooking and bleaching to the end of increasing use of West Coast pulp is something of which to be proud. I found a friendly and open-minded attitude toward any possible improvement in quality and cost saving. I think it is right up to users of pulp in the United States to encourage, and, if necessary, strain a point to use West Coast pulp instead of importing foreign grades. While there exists a difference in characteristics of fiber, there seem to be very few cases where West Coast pulp cannot be used.

"So let us all work for the greater utilization of our own natural resources, and for the benefit of our own industries.

"While I have thanked many for the reception accorded me during my recent visit, perhaps you will be good enough, in your travels, to let the fellows know how much I appreciate the courtesies extended.

(Signed) R. D. KEHOE, President,
Paper & Industrial Appliances, Inc."

RAINIER B STOCK FORMALLY LISTED

The opening of the San Francisco Stock Exchange for business January 24th the class B stock of the Rainier Pulp and Paper Company of Shelton, Washington, was formally listed. It will be traded on a regular basis of units of 100 shares.

PIM AND MCKENZIE STAYING IN ORIENT

Harry Pim, sales manager of Pacific Mills, Ltd., and G. C. McKenzie, manager of the Export Newsprint Sales Company of Vancouver, will probably remain in the Orient, exploring market possibilities, until late in March, they have advised their home offices in Vancouver, B. C. They report that the Chinese market, despite political instability and the silver situation, has shown marked improvement since the beginning of the year and that German and Swedish competition is not so severe as it was four months ago. They expect that Canada's business with Japan in pulp will soon return to normal as a result of the new trade agreement.

NOTES FROM A FIELD TRIP INTO GRAYS HARBOR FORESTS

No region in the United States has so large a stand of virgin timber as the Pacific Coast. This region may conservatively be stated to have over two-thirds of the remaining virgin timber of the nation. While the pulping species are found throughout the Pacific Coast timber area, they are found in greatest abundance in the Douglas fir region, namely Western Washington and Western Oregon, west of the summits of the Cascades, a region which with its deep water shipping and rail facilities, with its abundance of water and other natural advantages, possesses every requisite for further sound growth of the already substantial pulp and paper industry.

This region also has another advantage which is of prime interest to the firm seeking a permanent supply of pulp wood. This advantage lies in the large volume of the pulping species held in public ownership. Not only is there available for purchase substantial blocks of pulp timber from private interests, but there is the possibility of basing the supply in large part upon publicly owned timber, attended by relatively slight investment and expense in carrying charges. No other region in the United States has this advantage.

To illustrate this point, take the timber tributary to Grays Harbor. Here, in addition to large blocks of privately owned timber, there are large blocks of timber on the Quinault Indian Reservation, there are substantial stands owned by the State of Washington, and even larger stands under the administration of the United States Forest Service.

The Indian Timber

The Quinault Indian Reservation has upon it, in round figures, 3,000,000,000 feet of timber, estimated upon a sawmill log basis. Considering small timber not of sawmill log size, the reservation has more timber, but to make clear the situation, it is not necessary to present the figures with minute accuracy.

Of the timber on the Indian reservation, approximately 900,000,000 feet is hemlock, about 400,000,000 feet Sitka spruce, around 250,000,000 feet silver fir, about 1,000,000,000 feet western red cedar and the balance a mixture of species, some of them suitable for pulp.

The western red cedar is readily salable for the manufacture of shingles and cedar lumber; the better grades of spruce logs find a sawmill or veneer plant market, but the balance in the main must find a market as pulp. The Indian Service, therefore, is most interested in the possibility of an arrangement with a firm interested in a permanent supply of pulp wood whereby a permanent cutting cycle

may be worked out so that a pulp mill will have an everlasting supply of the pulping species.

And there has been worked out a method of logging in this region which permits rapid regeneration of the pulping species. This method has been tested by the Aloha Lumber Co., Aloha, Washington. The method embraces throwing out logging railroads well ahead, logging one relatively small area, then moving to another small area, logging that and so on, coming back to the green timber left behind after the passage of some years. This does away with the necessity of broadcast burning and speeds up reproduction, which comes in very heavily to the pulping species.

No one knows exactly what the cutting cycle for pulp wood will be on this area. Experienced timbermen say that 30 to 40 years in some locations will be sufficient. Experience in the Grays Harbor country supports this conclusion. Others say the rotation should be 40 to 60 years. In any event it will be a relatively short rotation, the length depending in no small degree upon the size of the timber the pulp mill is willing to utilize. No region in the United States will produce such a large volume of wood per acre per year as is now produced in the Douglas fir region.

Indian timber contracts call for the payment down of only a relatively small part of the agreed purchase price of the timber. It is reasonable to conclude that a similar arrangement could be made in working out a permanent cutting plan for the pulping species.

The National Forest Timber

Another type of public ownership which holds much timber tributary to Grays Harbor is the United States Forest Service. In Grays Harbor County alone . . . only a part of the territory naturally tributary to Grays Harbor . . . there is in excess of 6,100,000,000 board feet of timber, of which 4,275,000,000 feet are of the pulping species.

In Jefferson County, much of the timber of which is tributary to Grays Harbor, there is a much greater volume of Forest Service timber, which is preponderately of the pulping species.

It so happens that much of this National Forest timber lies in blocks which are natural logging chances for permanent production of pulping species when worked out in connection with existing logged off lands, now in private ownership, but which may readily be worked into units which will assure a permanent supply of pulp wood in whole, or in substantial part, for pulp and paper mills.

That the United States Forest Service

will be willing to work out long time cutting cycles to assure permanency of supply of pulp wood is a reasonable assumption, again offering an opportunity to secure a "back log" of timber with minimum investment. As substantiation for this conclusion, Pacific Pulp & Paper Industry quotes from a statement made on December 13, 1935, in Portland, before the Western Forestry & Conservation Association by F. A. Silcox, chief, United States Forest Service.

"I came back into the United States Forest Service feeling that we must face a better handling of our forest resources; that in doing so there were a number of basic issues on which we must soon make fundamental choices . . . I want to work out an integrated program of private and public holdings which shall make for sustained yield operations and so bring about the greatest possible degree of social security for communities and the lumber industry; to lay the foundation for long time investments at low rates of interest. I want, in other words, to see a much sounder social and economic set-up than that which in the past has been dependent on the forest resources of these United States."

The State Timber

In Grays Harbor and Jefferson Counties the State of Washington owns a little over 7,000,000,000 feet of timber. This may be said to be tributary to Grays Harbor. Of this total around 5,600,000,000 feet are of the pulping species.

The state timber is so located geographically that most of it can readily be utilized in making up sustained yield cutting units for pulp timber tributary to Grays Harbor.

Pulp Wood from Private Operations

Naturally any cutting cycle set-up will include timber suitable for sawmill use. There is ample market on Grays Harbor for such logs of the non-pulping species, with an installed capacity which in peak years has utilized around 2,000,000,000 feet of logs for lumber, shingles, plywood and veneer. There are private operators, of course, who naturally produce considerable pulp wood and they could produce much more.

The sawmills of Grays Harbor will undoubtedly cut more lumber from hemlock as the years go by. The supply of Douglas fir, on which their volume business was built up, is now small. But only a certain percentage of the hemlock logs are suitable for lumber manufacture . . . and this is a relatively small percentage. The balance is suitable mainly for pulp.

This trend is clearly shown by going operations. Take the Aloha Lumber Company, for example. It is logging on the Quinault Indian Reservation. In accordance with the terms of its contract it must take out the hemlock and spruce. The better hemlock logs are sold. The balance are split into pulp wood and sold to pulp mills on Puget Sound and Grays Harbor. The price per cord of split and barked pulp wood ranges from \$7 to \$7.50 delivered.

PULPWOOD LOGGING METHODS
SUSTAINED YIELD POSSIBILITIES
TIMBER OWNERSHIP
RAPID REGROWTH



PULPWOOD GROWS RAPIDLY

Frank Hobi, Grays Harbor logging operator, shows in photograph "A" two-year-old spruce and hemlock, six to twenty inches high and thick as grass. This is typical reproduction where fire is kept out. Photograph "B" was taken directly across the road from "A" and shows 90-year-old hemlock. Note the young crop at edge of cut. Photograph "C" shows 90-year-old hemlock. Photograph "D" illustrates the possibilities for a perpetual supply of pulpwood. The spruce and hemlock is from ten to twelve years old. The area in Photograph "E" was logged in 1922 and pulpwood cut off in 1934. Note the heavy spruce and hemlock reproduction which sprang up immediately after the 1922 logging.

The Aloha Method

The Aloha Lumber Company sorts out the logs of hemlock and spruce which may be marketed and the remainder is sent to what was formerly the division of the plant cutting western red cedar bolts for Japan. The logs move up the bull chain in the usual manner and are bucked to 52-inch lengths by a drag saw. The sections are then peeled, split and black knots and usual bark defects cut out with an axe. Split stock is then loaded in cars for delivery to pulp mill. All refuse is dropped through floor on block chain conveyor and removed to the power plant.

The M. R. Smith Method

Another milling firm which is marketing part of its output in the form of pulp wood is the M. R. Smith Lumber & Shingle Co., Moclips, Wash. This firm, also logging on the Quinault Indian Reservation, sells the sawmill logs of hemlock and the balance of the hemlock logs are dumped along the track at Moclips. There, adjacent to the most westerly railroad station in the United States, the logs are bucked, peeled and split by hand and the clean wood shipped to pulp and paper mills. At present most of the pulp wood from Aloha and Moclips is moving to Puget Sound.

The Pacific Coast pulp and paper mill, in the early stages of the development of the industry, became accustomed to obtaining its wood in log form. Log shipments to pulp and paper mills still constitute the major means of securing wood. But split pulp wood, mill waste and chipped material has gradually come into use

and slowly, though surely, is playing a part in supply wood in economical form and aiding in complete utilization.

Then, too, the type of pulp or paper has some effect upon the type of wood the mill desires. For example, split pulp wood with its ability to season rather quickly, is obviously a preferable form for a mill to receive the material in when it desires to make, from seasoned wood, a paper such as powder wrap.

And so in the Douglas fir region of the Pacific Coast there has developed a substantial production of split pulp wood. This is true of Grays Harbor, as it is true of the Willamette Valley and the Puget Sound country. In the main the timber is felled, bucked, split and peeled in the woods, using all hand labor.

In the Grays Harbor country there are many split pulp wood operations. In some cases the trees are felled, bucked, peeled and split in the woods, the bark being left on the ground. And gradually there is being evolved mechanical methods of logging and preparing the wood, which mean substantial daily output and lower cost.

Clevenger Pulp Wood Operation

As an example of this type of operation take the logging operation of J. J. Clevenger, of Raymond. This operation is alongside the new highway from Raymond to Aberdeen and is about 5 miles from Aberdeen.

A steam donkey yards the tree length logs to a spar tree in the usual manner. This donkey has an extra drum on in front and by means of this drum takes the logs from the spar tree and skids

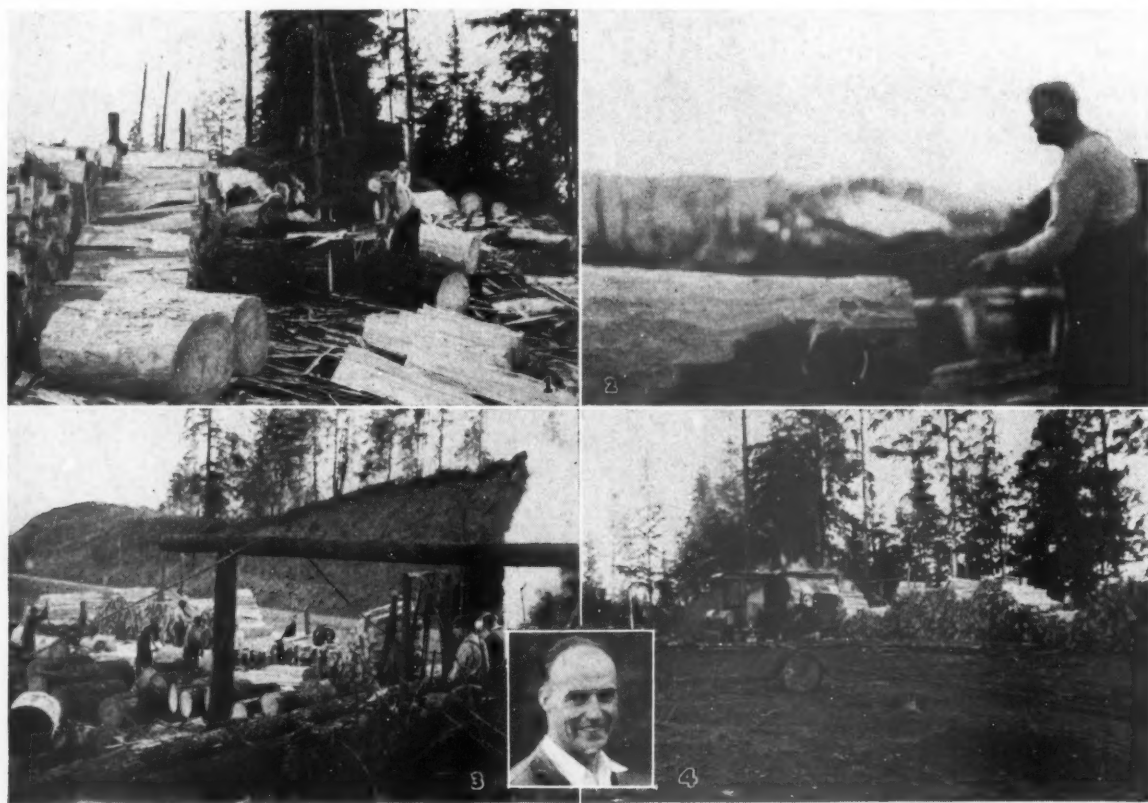
them up a log chute to a steam bucking saw, which draws its steam from the donkey. Cut to cord wood lengths, the rounds are rolled away from the chute and are peeled, split and racked by hand. The wood is then trucked to railroad and much of it shipped to Puget Sound. This camp produces from 18 to 20 cords of wood a day.

The method can be applied any place. Roads for trucking out logs can be built into the woods any place; likewise they can be built into the woods at any point to take out pulp wood. Or the logs can be hauled out in 8-foot lengths, loaded across the bed of the trucks and the peeling and splitting done at some other spot. The value of peeling in the woods, and the elimination of waste at the stump is quite apparent. Perhaps the next step forward will be the development of steam splitters to replace hand splitting.

Pulp Woods Grow Fast

The North River watershed lies south of Grays Harbor and is almost all privately owned. Most of the old growth fir and spruce, except in scattered stands, has been logged, but there remains something like 3,000,000,000 feet of pulp wood, mostly spruce and hemlock from 70 to 100 years old. The hemlock, because of the density of the stand, ranges from 10 to 24 inches in diameter. The spruce is much larger, it not being unusual to find a second growth spruce from 4 to 5 feet in diameter and not over 80 years old.

The stand per acre over this area, as is true of most of the Grays Harbor country, is quite uniform. There are places



THE CLEVANGER PULPWOOD LOGGING OPERATION

In photograph number 1 the peeling and splitting operations are shown. Number 2 shows a close-up of the peeling operation. Number 3, the log chute leading to steam buck saw and the peeling and bucking operation. Number 4, the donkey engine and some of the day's pulpwood cut. Insert, Mr. J. J. Clevenger.

where the pulp woods run 100,000 feet, or 200 cords, or over, per acre over substantial areas, though this is somewhat above the average of the region. The stand per acre is relatively uniform. That is where there are more trees per acre, the timber is smaller; where it is spread out more, the trees are larger, but the wood volume remains rather constant.

It is rather interesting also to note the intermingling of the pulp species. In the North River area, as well as in other large areas, in the reproduction of the pulping species, spruce makes up from 10 to 20 percent of the stand, averaging around 15 percent and the balance is hemlock, with some white fir on the higher elevations.

It appears that over much of this area there have been recurring crops of the pulp wood, an endless succession of one forest after another, a constant start of the new forest, which under certain conditions will choke out the older hemlock and produce a second even aged stand of hemlock. Thus nature has provided an area with a natural rotation of one crop of pulp wood after another. This view is substantiated by the scattered single trees of Douglas fir, cedar and Sitka spruce, with a dense second crop of hemlock and spruce from 70 to 100 years old.

And below this crop of the pulping species there is a constant struggle for a new crop of pulp wood to get a start. Every open spot is quickly covered with a dense mat of young trees, looking like ferns or grass from a little distance. This growth is shown in photograph "A," where a stand of pulp wood was cut into. This is hemlock and spruce reproduction, 2 years old, covering the ground with as dense a mat as any lawn will have. Thus nature has provided for the immediate start of a second crop of pulp timber, immediately upon the removal of the first.

In photograph "D" an older "understory" of young growth is shown. In this case a power line was cut through a stand of pulp wood and all along the line, where the light is let in, this second stand immediately came to life and may be seen crowding up upon the present stand of hemlock and spruce, which is about 90 years old. The understory here, from 6 to 12 feet high, is between 10 and 12 years old.

In photograph "E" is shown a third example of the heavy and rapid reproduction of the pulping species. This area had a fairly good stand of hemlock, spruce and Douglas fir on it and was logged in 1922 by the conventional method, taking out the large sawmill fir and spruce.

In 1934 the pulp wood cutters went into this area again and removed much of the pulpwood, but left standing some of the taller trees, which for one reason or another were not judged worth removing. Some tops from this second logging may be seen in the foreground.

The important thing about photograph "E", however, is the heavy stand of the pulp species, which sprang up immediately after the 1922 logging operations and which today stands 20 to 40 feet high, the growth of 14 years, showing what occurs when there is light and fire is kept out.

CROWN-WILLAMETTE ENLARGING CATHLAMET CUT-UP PLANT

The Crown-Willamette Paper Co. have in progress a radical change in their Cathlamet cut-up mill which will alter it completely. The size of the plant will be increased by the space of 26 by 180 feet, the splitters will be taken out and a ten-foot band saw installed with the usual complement of machines for finishing operations.

The blocks for the box factory will be cut in the Crown-Willamette mill, the barking operation will be continued and some wood will be prepared for pulp production. Some grades of lumber will be sawed but not much hemlock will be cut, the transformation being designed to fit a plant for spruce operation.

In the course of the transformation a considerable part of the old building will be torn down and some of the machinery discarded.

A piledriver crew is now at work preparing the foundation for the extension of the building and the work will be pushed to completion as rapidly as may be. The construction began on December 15 and it is hoped will be completed some time in March.

800 YEAR OLD SPRUCE IS CUT

In Wahkiakum County, Washington, a spruce tree 800 years old was cut early in January. It had started to grow in 1135 and had grown to tremendous size before being cut down after a day and a half of labor by two men.

The forest giant was fourteen feet in diameter at the base and the butt of the log cut nine feet above the ground was eleven feet in diameter. The top had been broken off in a storm many years ago, but it was estimated the tree had been 190 feet high. Without the top the height was 140 feet. But 33,000 feet of logs was salvaged from the old spruce as top rot had set in after the top was broken off.

The logs were sold to the Crown-Willamette Paper Company's Cathlamet breakdown mill.

B. C. PLANS SUSTAINED YIELD OPERATIONS

The British Columbia government has set aside 1,386 square miles of timber land in the Nimpkish River section, northern Vancouver Island, as a part of the provincial forest reserve in which logging will be done scientifically with a view to maintaining the supply in perpetuity. The province's reserve forests now comprise 23,800 acres, containing 50 billion feet of timber. The government's program is to set aside sufficient timber in reserve in twenty-five years to meet the annual commercial requirements of the province.

SITKA SPRUCE AND SILVER FIR VOLUME TABLES AVAILABLE

Volume tables for Sitka spruce and for silver fir have just been completed by the Pacific Northwest Forest Experiment Station. These tables, based on a large number of measurements, were compiled by Dr. Walter H. Meyer according to a well-tested and standardized technic which assures that the values in the tables give an exceedingly close approximation to the prevailing volumes of trees of the species concerned of given diameters and heights. It is on the program of the station to compile standard mensurational tables for all the major commercial species of Oregon and Washington. Similar tables have heretofore been issued for second-growth and for old-growth Douglas fir, ponderosa pine and western hemlock.

Tables are presented both in cubic feet and in board feet, assuming various degrees of utilization, so that the forester or cruiser may have available for his computations values to fit almost any class of tree-volume estimating. A copy of these tables, which are in mimeographed form, may be had by anyone who has need for them by applying to the Director of the Experiment Station, 423 U. S. Court House, Portland, Oregon.

TIE MILLS PROVIDE PULPWOOD



Charles Lyon, Kalama, Wash., operating a group of tie mills up the Kalama River has developed into a substantial source of supply of pulpwood for the Longview Fibre Company, Longview, Wash. The Lyon tie mills, in common with the usual run of tie mills on the Pacific Coast, do not cut anything except ties. Hence the slabs are heavy and provide lots of wood. For a mill

which can use Douglas fir, therefore, the hundreds of tie mills on the Pacific Coast offer a substantial source of supply.

The method of operation is of the simplest. The slabs are dropped down a chute to two men, who bark the slabs with a spud and pile the green slabs. When two or three loads are ready, the trucks come in, load up and that is all there is to it.

ROYAL CONTAINER OPERATING IN NEW PLANT

Royal Container Company completed installation in August, 1935, of a new corrugating plant at 198 Bay Street, in North Beach district of San Francisco—the fifth corrugating plant in the bay district. L. S. Wilson is president of the Royal company and H. R. Freemon, treasurer.

Approximately \$150,000 was spent for new machinery. The largest piece of new equipment is the 200-ft. long corrugating machine, which will handle 175 lineal feet of board per minute. Another unit is the latest and most up-to-date model printer, which prints, cuts, scores and slots the boxes. This machine will turn out from 10,000 to 12,000 boxes per hour and alongside of it is an antiquated printer which the company formerly used and which they say is as much like the new unit as a 1936 model car resembles a 1910 model.

Two new stitchers and die cutters are

also included in the new machinery and there is a new gas-fired boiler for power purposes.

Royal Container Co. is the outgrowth of a second-hand container venture started on San Bruno street in San Francisco in 1931 by Mr. Wilson and Mr. Freemon. During the past several years the firm has operated as the Royal Carton and Paper Excelsior Co. at 1700 Folsom Street, a location which is still retained as a warehouse and for making furniture pads and excelsior. They have 40,000 square feet of floor space in their new establishment.

The company buys only western stock and buys it all from Fibreboard Products, Inc., using kraft, jute, straw and chip board.

Mr. Wilson, the president of the company, was a farmer before he went into the box business and Mr. Freemon was in the paper business in San Francisco, as a jobber and mill representative.

The firm has machinery in the Memorie Fruit Company plant at Fresno for making paper pads, lined with excelsior, for fruit boxes and these are distributed by Blake, Moffitt & Towne.

The other four corrugating plants in San Francisco district are Schmidt Lithograph Co., Owens-Illinois Pacific Coast Co., Fibreboard Products, Inc., and California Container Co.

BARTRAM EXPANDS PLANT

The Bartram Paper Products Company of Vancouver, B. C., is adding a two story extension to its plant which will cost approximately \$15,000.

When the new addition is completed the basement of the building will be used for storage purposes.

FREYDIG RETURNS

Mr. Paul E. Freydis, who is making the logging investigations for the Derwent Valley Paper Company Limited, returned to Seattle in February after a short trip. Mr. Freydis left on December 10th for this, his second trip to Tasmania.



L. S. WILSON
President

MANNING BECOMES CHIEF B. C. FORESTER

E. C. Manning has taken over his new duties as chief forester for British Columbia, succeeding the late P. Z. Caverhill, who died shortly after his return from a trade mission to South Africa. Manning's appointment necessitated a general shift in forest department offices. C. D. Orchard, who was in charge of operations for the forest branch, goes to Victoria as assistant to Manning. G. P. Melrose, district forester at Kamloops, becomes chief of operations, and his place is being taken at Kamloops by C. J. Haddon, previously at Victoria head office.

Manning joined the B. C. forest service after the war, having previously been with the Dominion government forest service and the forestry department of the Canadian Pacific Railway. He was graduated from University of Toronto in 1912. For the last nine years he was assistant chief forester under Caverhill.

BROOKS IN CALIFORNIA

S. D. Brooks, president of Powell River Company, is spending a few weeks' vacation in California with his family.



H. R. FREEMON
Treasurer



The New Corrugating Plant of the Royal Container Company in San Francisco

STEEL BELT CONVEYORS INCREASE EFFICIENCY OF BLACK ASH HANDLING AT ST. HELENS

By D. L. SHIRLEY*

The St. Helens Pulp & Paper Company, at St. Helens, Oregon, have been operating continuously and efficiently since starting up in 1926, and have been very progressive and alert in finding ways and means to improve their operation. In April, 1935, they put into operation a system of steel belt conveyors in their recovery room, for handling black ash, which has proven highly satisfactory and efficient.

As originally laid out and constructed, their recovery room was so arranged that the three rotary incinerators each discharged black ash at the side of their furnaces, which were hand-fired, with the relative elevations such that the fire doors permitted charging of the furnaces to about fifty per cent of their depth as shown in sketch No. 1.

This left the upper portion of the refractory furnace linings exposed to the high temperatures developed in these furnaces, and involved a considerable expense in maintenance alone. At the same time, this required that each furnace handle the output of ash from its respective incinerator, and if a surplus or

shortage developed at any one of the units, transfer of ash was difficult as well as expensive.

After careful consideration and check of the situation, their engineering department and operating heads approved the installation of the conveyor system, every precaution being taken to insure constant operation, as the recovery must operate continuously. The accompanying elevation sketch illustrates the manner in which the 18-inch wide flat steel belts were arranged.

The ash discharges from the rotary incinerators and is piled up in a cone by an arm fixed to the end of the shell. This allows the accumulation of a small reserve storage, and the material runs through the opening in the floor to the conveyor, which runs at a slight incline under the floor, in front of each kiln, and conveys the ash to one end of the room. It is then delivered to the parallel conveyor, which is inclined to reach the necessary height and then extends horizontally over the center-line of the furnaces.

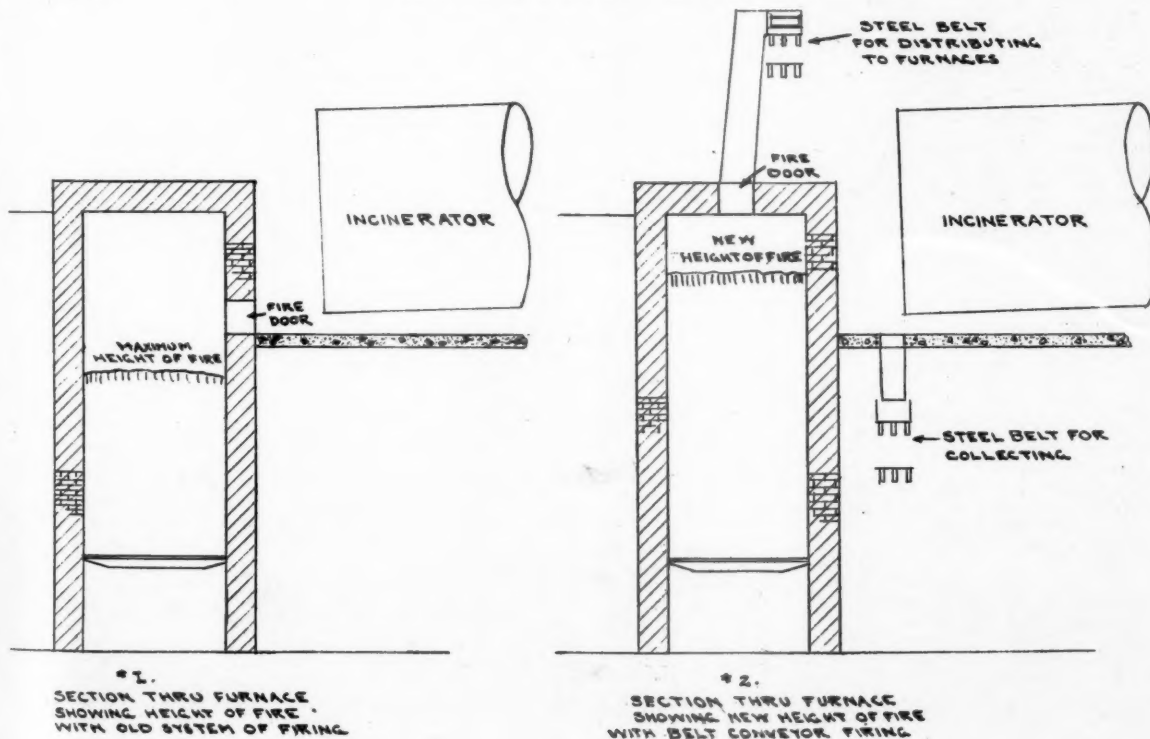
Ash is fed each furnace as desired, from above, by means of adjustable plows, providing an extremely flexible arrangement, and in addition, this has permitted sealing up of the side firing doors,

and has removed the firing crew from the side to a much improved location above.

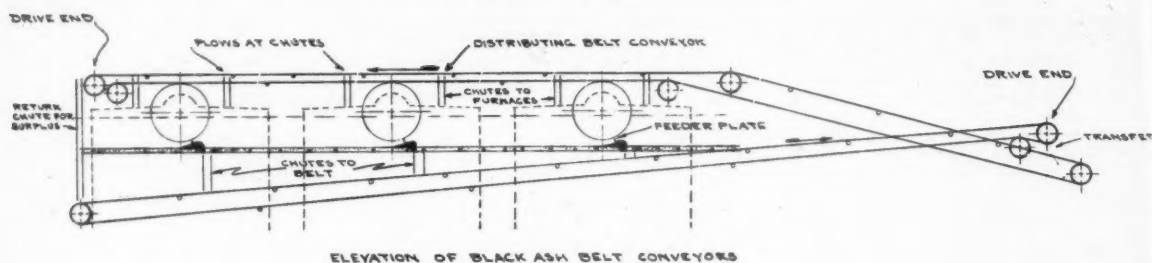
It has been found that more efficient distribution of the ash has produced a surplus available for operation of a waste heat boiler, and further economy has been obtained by carrying the furnaces about eighty per cent full, as shown in sketch No. 2, instead of fifty per cent. This greatly reduces the amount of exposed furnace lining, and alone is responsible for a material reduction in maintenance expense.

Steel belts were selected because the ash must at times be handled at fairly high temperatures, and may often be rather sticky. Also operating with practically no sag between supporting idlers, it was possible to close in or house each run effectively, and discharge by plow can readily and cleanly be accomplished without likelihood of injury to the belt.

The Sandvik steel conveyor belts, carrying idlers, head and foot machinery, etc., were all furnished by Link-Belt Company, whose Portland engineering department assisted in working out details of design and construction of the complete installation, in cooperation with the St. Helens Pulp & Paper Company engineering department.



*Resident manager, Link-Belt Company, Portland, Oregon.



ELEVATION OF BLACK ASH BELT CONVEYORS

RAY SMYTHE TAKES OVER LANGDON WINDER SHAFT

Ray Smythe of Portland, Oregon, has taken over the exclusive sale of the Langdon winder shaft.

The Longdon collapsible shaft is made on the Pacific Coast and is used by a number of mills in this region. It is held in the expanded position by a heavy spring and is collapsed by manual operation of a lever. The Langdon shaft can be made to collapse an eighth of an inch or more.

HODGES BACK FROM EASTERN TRIP

Mr. Walter S. Hodges of Portland returned February 15th from a two weeks trip to Chicago, Piqua, Ohio and Appleton, Wisconsin. At Piqua he visited the Orr Felt & Blanket Company, makers of paper makers' felts, and at Appleton Mr. Hodges visited the Appleton Wire Works. Both companies are represented on the Pacific Coast by Mr. Hodges.

Mr. Hodges left for the East January 28th after returning from a three weeks trip to California. Upon returning to Portland from the East on February 15th, he took to the road again, heading North to visit the mills in Washington and British Columbia.

INSTRUCTION SHEET FOR CONVERTERS

A valuable instruction sheet, containing complete data on running in a paper roll has been made available by the John Waldron Corporation of New Brunswick, New Jersey. This instruction sheet, entitled "How a Paper Roll Should Be Run In," solves many of the problems that have accounted for inefficiency in operation and diminishing service hours from the roll. It is offered to users of paper rolls without obligation in the hope that it may provide a clear picture of the requirements for properly running in a paper roll.

M. H. WATERBURY

Mr. M. H. Waterbury, treasurer of H. Waterbury & Sons Company, Oriskany, New York, manufacturers of paper makers' felts, died at his home in Oriskany on January 11th.

Born in Rensselaerville, New York, in 1875, Mr. Waterbury's lifetime work was with H. Waterbury & Sons, of which organization he had been treasurer for thirty years.

Active in community affairs throughout his life, Mr. Waterbury had been mayor of Oriskany for the past fifteen years.

Besides his immediate family Mr. Waterbury is survived by two brothers, Mr. J. E. Waterbury, president of H. Waterbury & Sons Co., and Mr. C. H. Waterbury, vice-president, and two sisters.

MALNBURG JOINS PMC

Mr. Alec C. Duncan, manager of the Paper Makers Chemical Corporation at Portland, Oregon, announces that Mr. C. O. Malnburg joined his organization the first of the year. Mr. Malnburg will handle the sale of industrial chemicals in the Portland area.

F. K. TAYLOR VISITS COAST

Mr. F. K. Taylor, vice-president in charge of industrial sales, Taylor Instrument Companies, is now on a several weeks visit to the Southwest and Pacific Coast offices. Mr. Taylor expects to be back in Rochester by March 1st.

GOB DES MARAIS MAKES EASTERN TRIP

Mr. H. A. (Gob) Des Marais, Pacific Northwest representative of the General Dyestuff Corporation left Portland on January 1st accompanied by Mrs. Des Marais for New York City where he attended a technical meeting of his company's representatives.

Mr. and Mrs. Des Marais returned to Portland January 31st.

WALTER GLASS ON COAST

Mr. Walter L. Glass of the Economy Filler Processes, Inc., St. Catharines, Ontario, was a Coast visitor early in February in the interests of the Fair Process of paper filling.

The Fair Process was discussed briefly at the TAPPI dinner meeting in Portland January 28th by Mr. Glass. Sales of the Fair Process are handled by Paper & Industrial Appliances, Inc., of New York for which Mr. A. H. Lundberg of Seattle is the Pacific Coast representative.

FINNISH PULP AND PAPER EXPANSION

From the December 31, 1935, issue of the Finnish Paper & Timber Journal we quote the following news of developments in the Finnish industry:

Extension Work at Myllykoski Completed

The new paper machine for newsprint, which Yhtyneet Paperitehtaat O. Y. (The United Paper Mills, Ltd.) ordered last March from Messrs. Walmsley (Bury) Ltd., has now been mounted at Myllykoski and began work on December 27. The new machine is of the rapid three-reel type with a working width of 541 cm. (213 inches). It has been installed at the side of the similar machine acquired in 1933.

This installation completes the big modernization scheme carried out at Myllykoski for some years past. The first stage included i. a. the building of the grinding mill and the water-power station; the former being concluded in 1928 and the latter in 1929. Four years later the new paper mill and steam-power station were completed, and immediately afterwards work was started to increase

the capacity of the rapids situated just below the mill. As a result of these operations the power efficiency was increased by 35 per cent.

The third section of the rebuilding project, which was started this spring, has now been completed by the installation of the new paper machine and the extension of the boiler room and the grinding plant. In the steam-power department a 35 atm. boiler has been mounted, delivered by Tammerfors Linen and Iron Manufacturing Company in collaboration with the English manufacturers. The new grinding equipment includes eight 1,200 h.p. chain grinders directly connected with the new turbines. After the completion of these sections the mill will utilize the entire available water power, viz., about 25,000 h.p.

In consequence of this enlargement of the various sections the productive capacity of Myllykoski has grown to 93,000 tons of paper, hitherto 53,000 tons, and to 133,000 tons of mechanical wood pulp (dry weight), previously 75,000 tons.

Projected Sulphate Mill at Oulu

As already reported, the erection of a new sulphate mill in Northern Finland has for some time past been discussed in interested industrial circles.

Negotiations were initiated recently and have now resulted in the formation of a new company called Oulu-Osakeyhtio, the object of which is to carry on wood-working activities at Oulu or in the neighborhood. The share capital is Fmk. 120,000,000, and principal shareholders are Veitsiluoto Oy, and Ab. Ulea Oy. The interested firms have i. a. decided that Pateniemi sawmill, hitherto owned by the Ulea concern, is to be transferred from January 1st to Oulu-Osakeyhtio and to carry on as before.

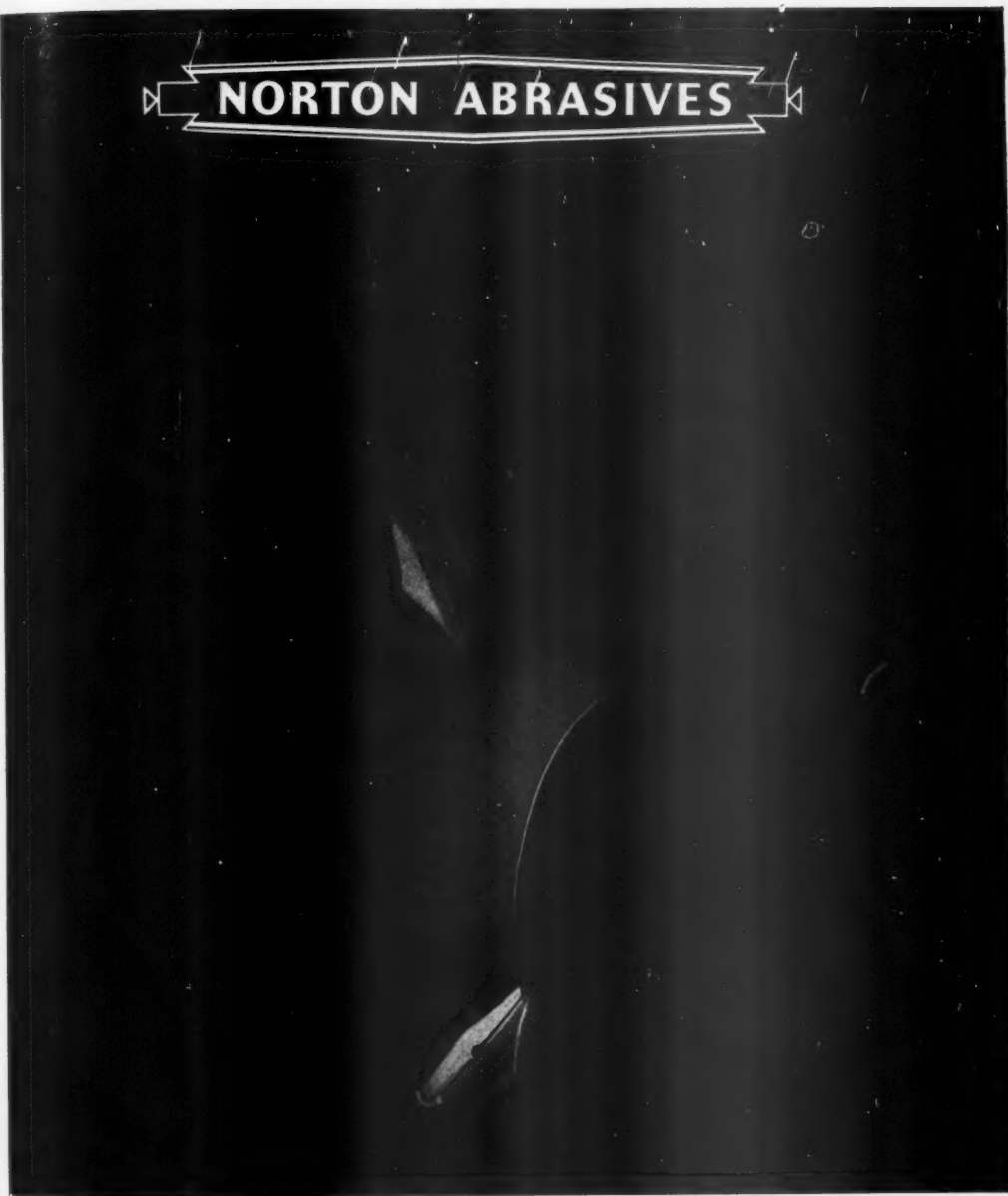
The new company will, moreover, erect a sulphate cellulose mill for an estimated annual output of between 80,000 and 100,000 tons, the mill to be constructed by Mr. Eero Kalaja, the designer of the sulphate mills at Enso and Kaukopaa. Mr. Kalaja will enter the service of the new company on Jan. 1st.

It is expected that the company's directors and managers will be appointed early in January, and the intention is to have the mill in running order towards the end of 1937 or, at least, in 1938.

The Ulea company is controlled by Kajaanin Puutavara Osakeyhtio, both firms being under the same management, while Veitsiluoto Oy. is owned by the State.

In 1877 when a delegation of the Nez Perce Indians came to the Coast to powwow with the Snohomish and other tribes concerning making war on the whites, they camped on the site now occupied by the Everett Pulp and Paper mill, which was an old camping spot for the Indians.—Everett, Washington, Herald.

NORTON ABRASIVES



The Norton Grinding Wheel . . . made thin enough to slot a fountain pen . . . ten tons of segments form the largest of the Norton Pulpstones.

Between this wide range are countless Grinding Wheels made for countless applications. In the paper mill, knives must be kept sharp, rolls ground true. Norton Grinding Wheels meet these requirements with speed and economy.

NORTON COMPANY
WORCESTER, MASS.

BEHR-MANNING, TROY, N.Y. (DIVISION OF NORTON COMPANY)
COATED ABRASIVE PAPER AND CLOTH - NORTON ABRASIVES - OILSTONES AND ABRASIVE SPECIALTIES

ANNUAL TAPPI MEETING PROGRAM ANNOUNCED

The tentative technical program of the annual meeting of TAPPI at the Waldorf-Astoria Hotel in New York City, February 17th to 20th, has been announced as follows:

Heat and Power Engineering
Power Requirements in the Paper Mill, by H. W. Rogers

Rate of Drying Writing Paper, by F. W. Adams

Drying Rates for Glassine and Grease-proof Paper, by V. F. Waters

Drying Rates for Tissue and Absorbent Papers, by A. E. Montgomery

Heat Recovery in the Alkaline Pulping Processes

Diesel Engines as Applicable to the Paper Industry, by M. J. Reed

Boiler Feed Water Treatment, by E. W. Butzler

Mechanism of Electrical Design, by C. J. Koch

Materials of Construction
Cast Ferrous Alloys, by F. L. La Que

Non-Ferrous Alloys, by J. T. Kemp

Steam Pipe Insulation, by J. W. Hemphill

Paper Coating
Offset Lithography on Coated Paper, by R. E. Reed

Using a Pebble Mill, by S. J. Dickhaut

Sulphite Pulping
A Survey of Pitch Troubles in the Manufacture and Use of Sulphite Pulp, by Otto Kress and L. A. Moss

Bleaching
The Mechanism of Bleaching, by F. E. Brauns

Management
The Paper Industry and the Business Cycle, by L. T. Stevenson

Stuff Preparation
The Thorsen-Hery Beater, by G. W. Dodge

Waste Paper Stock Preparation, by Edwin Cowles

The Refining Action of Discs, by D. M. Sutherland, Jr.

Mechanical Pulping
Effect of High Pit Temperature and Preheating of the Wood on the Grinding of Loblolly Pine, by J. C. Pew and R. G. Knechtz

Occurrence of Compression Wood in Black Spruce and Its Effect on the Properties of Groundwood Pulp, by M. Y. Pillow, E. R. Schafer and J. C. Pew

Laminating of Board
Combining Problem, by W. T. Marble

Pigments
The Retention of Pigments in Paper, by F. A. Steele and J. H. Haslam

Effect of Beating and Pigmentation on Sheet Properties, by W. R. Willets

Alkaline Pulping
A Method of Predicting Yields in the Soda Process, by D. W. McCreedy and W. J. Nolan

Application of the Cottrell Electrical Precipitation Processes to the Recovery of Dust in Stack Gases from Recovery Plants, by N. W. Sultzer and G. Beaver

Forestry
A Comparison of the Rate of Growth of Pacific Coast Wood and Southern Pine, by David Hervey

Pulp Testing
Further Experiments with the Kollergang Beater, by J. d'A. Clark

Some Factors Influencing the Sampling of Pulp Shipments for Moisture, by F. W. Brainerd.

Pulp Testing, by a Rapid Sheet Making Process, by James Coghill

A Universal Hydrogen-Ion Indicator, by D. T. Jarben and J. L. Parsons

Paper Testing
Water Vapor Permeability, by Allen Abrams and E. S. Worth

Grease Resistance of Paper, by H. L. Mellen

Chemical Testing Methods, by P. F. Wehmer

Physical Testing Methods, by R. C. Griffin

Some Observations on Burst, Tensile and Stretch Tests, by J. d'A. Clark

Water Resistance of Paper, by P. W. Codwise

The Nature and Measurement of Paper Acidity, by B. L. Browning and R. W. K. Ulm

Fundamental Research
Preliminary Report on the Existence and Nature of Pulp Membranes, by H. F. Lewis

Preparation and Constitution of Lignin, by W. M. Fuchs

There will also be a number of reports by committees on projects under way and completed.

The annual luncheon of the Association will be held on Thursday, February 20, 1956.

MARATHON WASTE LIQUOR RECOVERY SYSTEM BEGINS OPERATIONS

The waste sulphite liquor recovery system installed by the Marathon Paper Mills Company of Rothschild, Wisconsin, began operations February 1st.

It is said to be the first complete plant for the processing of waste sulphite liquor for the double purpose of reclaiming chemicals and chemical combinations for re-use in the sulphite process and for the manufacture of by-products. Danger of stream pollution through the discharge of waste liquors will be eliminated.

Mr. Guy C. Howard, consulting chemical engineer, formerly of Seattle, has developed the recovery process, assisted by research and engineering assistants. The work done under the direction of Mr. D. C. Everest, vice-president and general manager of Marathon, required five years of research and experimenting.

The recovery plant occupies 20,000 square feet. Waste liquor is collected from blow pits and pumped to precipitation tanks where lime is introduced, resulting in a lime-sulphur product which is used in making new cooking acid. The precipitation also develops a lignin combination which can be used either as boiler fuel or as a raw material for further processing. The remaining liquor has by this time been treated sufficiently so it may be discharged into river waters without possibility of pollution.

The recovered lignin product provides a low cost raw material from which may be developed by further processing a number of commercial products. Some have already been refined to the point of profitable sale to other industries.

One of the products is Maratan, a tanning compound which has been used

commercially in tanning leather for two years.

Methods have been developed for producing lignin salts and acids, some of which are now used commercially. Vanillin, or synthetic vanilla, may be recovered together with phenolic products.

The lignin can also be converted into resin products for employment in the manufacture of molded products, for coating and impregnating paper, and for use in lacquers.

Methods have been worked out for recovering additional organic substances from the main process effluent.

Patents are owned jointly by Mr. Howard and by the Marathon Paper Mills Company. A policy has been decided upon whereby other sulphite pulp mills will be licensed to use the main process patents for prevention of stream pollution and to produce the lime-sulphur products for re-use in the acid system together with the use of the lignin waste as fuel, but not for sale. The making of by-products for sale will be restricted to localities that are non-competitive with the Marathon mill at Rothschild, Wisconsin.

SULPHITE TANNING MATERIAL FOUND NON-DETERIORATIVE TO LEATHER

The National Bureau of Standards has found that tanning materials derived from the waste cooking liquor of the sulphite wood-pulping process had no deteriorative effect on leather.

It states that the development and increased use of materials containing sulphur in the production of vegetable-tanned leather, logically led to an investigation of the effect of these materials relative to the preservation of leather. Leather was tanned in the Bureau Experimental Tannery with the so-called "sulphite cellulose extract" and with other sulphur-containing materials, and tested to find whether material decrease in tensile strength had occurred after storage for periods ranging from 2 to 24 months. In all cases, the leather appeared to have aged normally when compared with previous lots of leathers tanned without the use of sulphur-containing materials. A detailed report of this work is contained in the Bureau Research Paper 369, which can be purchased from the Superintendent of Documents, Washington, D. C., for five cents.

EICHENBERGER MOVES TO PORT- LAND

Theodore L. Eichenberger, office manager of the Fibreboard Products mill in Port Angeles since 1930 has been transferred to a position in the newly organized Portland division under Mr. J. B. Martin, formerly manager at Port Angeles.

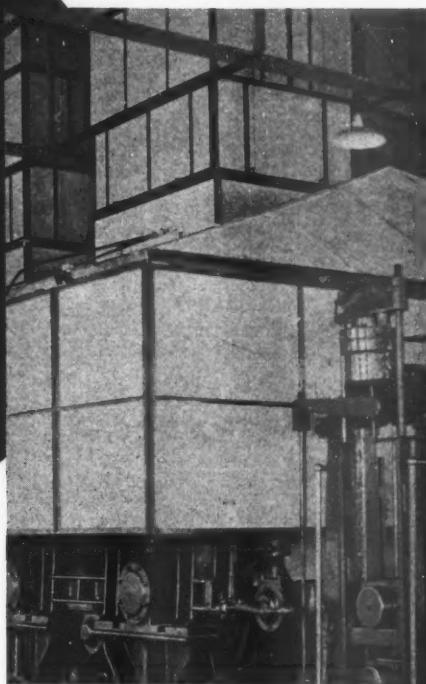
Phillip C. Nash, who succeeds Mr. Eichenberger at Port Angeles, comes from the Fibreboard plant at Antioch, California.

RIDGEWAY ELECTED CHAMBER TRUSTEE

Mr. C. E. Ridgeway of the Soundview Pulp Company was recently elected a trustee of the Everett Chamber of Commerce. Mr. Ridgeway represents the pulp and paper industry on the board.

FOR SALE: One Schopper Fold Tester in first class operating condition. Address inquiry to Weyerhaeuser Timber Co., Pulp Division, Longview, Washington.

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Paper
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**built for protection against
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With all the advantages and none of the disadvantages of ordinary hoods, these Ross Removable Panel Hoods afford a greater measure of economy, efficiency and durability. They provide construction features not available in other types—features which recommend them for use in mills where hoods have been considered impractical. New and modernized machines should have the operating advantages provided by Ross Paper Machine Hoods.

Ross Hoods are furnished either insulated or uninsulated to suit particular climate conditions. They are designed to avoid any interference with normal operation of the machine. Hooked or hinged curtains permit quick access to dryers and rolls. Panels and curtains are shipped ready for assembling which insures low erection cost. Can be installed over week-end shutdown. Write our nearest office for descriptive bulletin.

*Ross-Grewin High Pressure Ventilation
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JAPANESE WOOD PULP MILLS SUPPLYING INCREASING PROPORTION OF DOMESTIC REQUIREMENTS

Production of wood pulp by members of the Japan Paper Manufacturers' Association during the third quarter is reported to have reached 180,751 short tons, an increase of 939 tons over the preceding quarter and of 3,928 tons over the corresponding quarter in 1934. This increase is due entirely to the rise in production of chemical pulp from 92,520 tons to 93,698 tons, as compared with the preceding quarter, the output of mechanical pulp during this period having dropped from 87,291 tons to 87,053 tons.

Imports of wood pulp into Japan during this period amounted to 57,966 tons, of which 27,469 tons were destined for the manufacture of rayon and 30,477 tons for paper manufacturing. In comparison with the corresponding quarter last year, total wood pulp imports declined 2,345 tons. Over 35 per cent of these imports were supplied by the United States. The remaining 65 per cent was supplied by Sweden, Norway and Canada, in the order named. Receipts from the latter country, as compared with last year, show a marked decline. During the month of September there were no imports from Canada.

A number of projects for the expansion of wood pulp manufacturing in Japan have been mentioned in the press from time to time, but progress has been slow, especially in the grades suitable for rayon manufactures. Additions to the Oji Paper Company's mill for manufacturing pulp for rayon are reported to have been completed, and this plant may be expected to turn out 30,000 metric tons of pulp yearly. Another mill was also completed on June 1, and commenced operations with an initial capacity of 10,000 tons yearly. Production of pulp for rayon manufacture during 1934 is reported to have reached a total of 17,000 tons, but domestic production is negligible compared with the estimated total consumption of 82,300 tons.

NEW ADDITIONS TO JAPAN'S PULP AND PAPER MANUFACTURING FACILITIES

Operations have been started by the Nippon Rayon Pulp Company on a scale of 30,000 tons per year. At their shareholders' meeting held on July 13, it was decided to increase their capital from the present paid up amount of 10,000,000 yen to 20,000,000 yen. This company is installing new machines for kraft paper production, with an initial productive capacity of 1,850 tons per month. Operations will begin in April.

Two new paper machines with a width of 120 inches are being installed by Taiwan Kogyo K. K., which will manufacture printing paper from the miscanthus. Two machines of this company with a width of 86 inches went into production in September.

GROWTH OF CELLULOSE SHEETING INDUSTRY IN JAPAN

Production of transparent cellulose sheeting in Japan during 1935 is expected to reach a total of 288,000 reams, according to unofficial trade estimates. If this figure is reached, production of this article will have doubled since 1932. Over 70 per cent of the 1935 output will be manufactured in the plants of the five leading concerns in this branch of industry. Exports of this product from Japan during the first 10 months of 1935

are reported in the official trade returns as approximating 3,207,983 pounds, valued at 1,430,182 yen. Comparative figures for 1934 are not available, since these imports were reported separately only with the beginning of 1935. Shipments this year have gone principally to Shanghai, Hong Kong, British India, Java and Australia.

Transparent cellulose sheeting, imported from France, was first placed on the Japanese market in 1923. The first transparent cellulose sheeting of domestic manufacture was placed on the market as early as 1925. The earlier products were called artificial silk paper or glass paper by the Japanese manufacturers. The product of the Dai Nippon Celluloid Company is now specially trade-marked "Cellsy," while that of the Fujii Glyphane Company is known as "Glyphane." A considerable number of concerns are interested in the manufacture of this product. Competition is keen and production is more than sufficient for domestic requirements. It is pointed out in a trade paper that the only way out of the present dilemma lies in the newly developed export business.—Assistant Trade Commissioner Carl H. Boehringer, Tokyo.

JAPANESE COMPANY TO BE ORGANIZED FOR MANUFACTURE OF RAYON FROM COTTON WASTE

Two companies, which have been jointly studying the possibilities of production of rayon from cotton waste, have now decided to organize a subsidiary company with an initial authorized capital of 5,000,000 yen for the production of pulp suitable for this purpose. The initial production will be 10 tons daily.—Trade Commissioner Paul P. Steintorf, Tokyo.

INCREASED PRODUCTION OF FOREIGN-STYLE PAPER IN JAPAN

Production of foreign-style paper in Japan during November amounted to approximately 74,142 short tons, according to the Japan Paper Manufacturers' Association. This figure represents an increase of 1,346 tons, or 1.8 per cent, over the output of the previous month, and an increase of 4,278 tons compared with November, 1934. The November figure brought production during the first 11 months of 1935 up to 787,812 short tons as against 725,426 tons during the corresponding period in 1934. Sales during the first 11 months of 1935 totaled 765,416 tons, an increase of 5.3 per cent over the corresponding period in 1934.

Japan's imports of paper, exclusive of photographic paper, during November came to 5,933 tons, a decline of 1,049 tons compared with the preceding month. Aggregate imports for the first 11 months of the year reached a figure of 75,266 tons, valued at Yen 12,528,209, against imports of 60,904 tons, valued at Yen 9,806,524, during the corresponding period in 1934.

JAPANESE PAPER MILLS REPORT INCREASED PRODUCTION

Production of foreign-style paper by members of the Japan Paper Manufacturers' Association is reported to have totaled 219,634 short tons during the third quarter of 1935, an increase of 14,332 tons over the corresponding period in 1934. Production of superior printing papers, simili, art, newsprint, roll papers and packing papers show a gain over last year, while ordinary printing

(other than newsprint), writings, colored papers, machine-made Japanese papers, pasteboard and colored papers declined. Sales during the quarter are reported at 202,995 tons, an increase of 2,600 tons over the corresponding period in 1934.

Foreign style paper prices have not shown any marked change from the previous quarter. This steadiness of prices has been due to control by the association. Smooth operation of control is due to one large controlling company, which controls 80 per cent of the total output of foreign-style papers in Japan. Quotations on printing papers, foreign-style, ranged from 0.14 yen to 0.19 yen per pound; kraft paper was quoted at 0.15 yen per pound, or 6.50 yen per ream.

The rise in paper production during the third quarter was also accompanied by a similar rise in imports. Paper imports during this period amounted to 21,607 short tons, an increase of 2,274 tons, or nearly 12 per cent, over the corresponding quarter in 1934. Increases were registered in all classes, with the exception of writing paper, receipts of which dropped off 20 per cent or more compared with the corresponding period last year. Canada continued as the leading source of supply of imported paper, furnishing more than 95 per cent of the printing paper imported.

NEW COMPANY IN CZECHOSLO- VAKIA TO PRODUCE BLEACHED SULPHITE PULP

The Bata interests (leading shoe manufacturers in Czechoslovakia) are establishing a new joint stock company, to be capitalized at 10,000,000 crowns (Czechoslovak crown is equivalent to 4.15 cents at present exchange rates), with the declared object of manufacturing, storing and selling products derived from chemical pulp, including rayon and transparent cellulose sheeting, and allied products. The new rayon plant of Bata, A. S., which recently went into operation, is located in vicinity of the proposed mill. In addition, the production and sale of electric current and steam power will be undertaken. (Commercial Attache Sam E. Wood, Prague)

NEW PULP AND PAPER PLANT PLANNED IN SOUTHERN RHODESIA

After 4 years of investigation, it has been decided to create a pulp and paper making industry at Inyanga on the eastern border of Southern Rhodesia, according to current reports. The country in the vicinity is mountainous and the rainfall high. Large scale planting of pinus insignis has already begun, and it is planned to plant 2,000 acres yearly, which is expected to provide sufficient pulpwood for mills with an output of 60,000 tons per annum. The rate of growth of these trees is claimed to be at least four times that in colder climates, and it is expected that the trees will grow to pulp-size in 12 years.

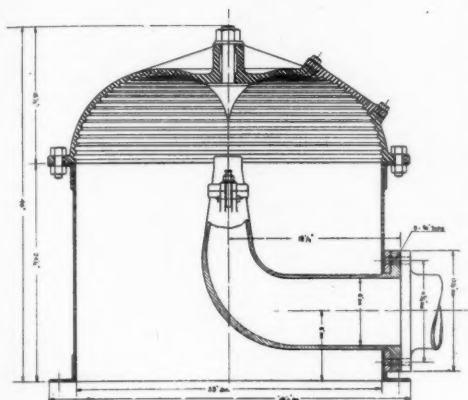
The industry will have the advantage of cheap land and hydroelectric power and a plentiful supply of cheap labor. In case it is desired to dispose of any trees as structural timber, an outlet is afforded by the Pungwe River on which timber could be floated down to Beira, Portuguese East Africa.

There is at present no pulp or paper mill in Southern Africa, except a small plant on the Klip River, near Johannesburg. The latter has not been in operation for some months. (Consul General Irving N. Linnell, Johannesburg)

Announcing...

A NEW "UMBRELLA" TARGET for HYDRAULIC BEATING SYSTEMS

Also the acquiring of Witham U. S. Patent No. 2,000,268



Sectional View of "Umbrella" Target—
Patent Applied For

Because the standard beater roll and Jordan plug are generally known to be most inefficient as recirculators with a tremendous non-effective load factor, many pulp and paper mills have installed the Hydraulic Beating Systems to increase production with less power for different applications. This System comprises an exceptionally efficient Pump for recirculation together with the Target. And now with the development and proved results of the new "Umbrella" Target for applications to headbox, chest or beater, still greater operating efficiency and economy advantages are attained, such as the following:

Improves finish and printing quality of paper making stocks.

Most efficient and effective for pretreatment of raw pulps.

Most economical in the handling of broke and waste papers.

In every installation, where the Target is used, production has been increased and power reduced. For example, one Pacific Coast user writes:

"At the moment time does not permit covering with any degree of detail the results we are obtaining from the Bale Pulper and the two 6" targets, excepting that the tandem 6" target arrangement for Jute Liner Filler Stock appears to be working out satisfactorily, and offhand, has permitted us to shut down four 1500-lb. beaters, one 15-H.P. pump, one 20-H.P. pump and one 150-H.P. jordan. The four beaters were operating at 80-H.P. each, making a total H.P. saving of a little over 300, with approximately 10% better stock from a slightly cheaper formula."

Full Particulars On Request

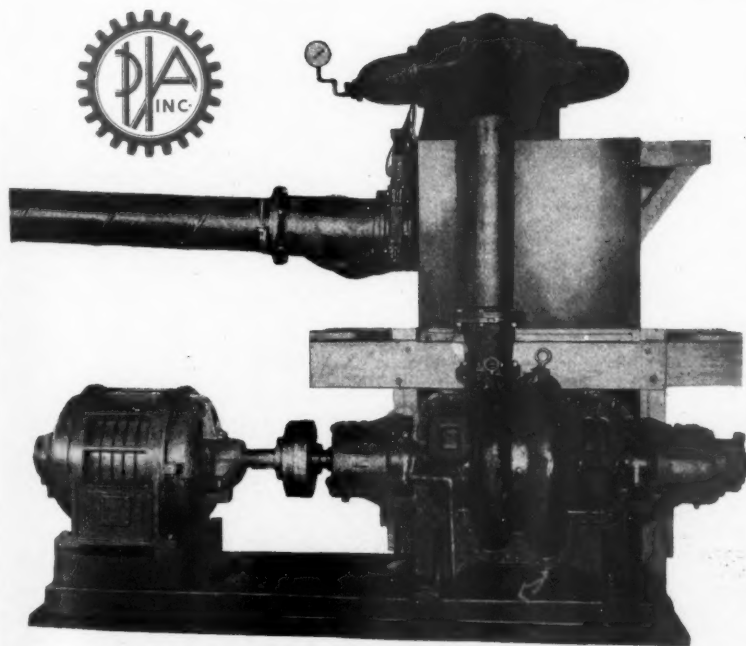
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Heavy Duty, High Pressure, Two-Stage FIBROPUMP

THE CANADIAN-JAPANESE TRADE SITUATION

Beginning of 1936 marked the official termination of the trade war between Canada and Japan that had brought about stagnation of Canada's exports to Japanese buyers of a variety of products, including pulp and lumber, but British Columbia pulp manufacturers do not expect to feel the favorable effects of the new situation for several weeks. The first two weeks of January are the holiday season in Japan and little or no business is done during that period. However, it is hoped that orders will begin to arrive here from B. C.'s old customers during the latter part of the month and in February.

"The extent to which we can win our way back into the Japanese market depends on how deeply the Japanese have got themselves into the habit of buying elsewhere," remarked Oscar Jorgenson, assistant manager of B. C. Pulp & Paper Company, an authority on trans-Pacific trade who has made several tours of Japan in the interests of his company. The boycott of Canadian pulp became effective in Japan last July 1. Since then no Canadian mill has done any business with Japan. Obviously Japan could not get along for six months without placing large orders for pulp wherever she could buy it. We are hoping, however, that we will be able to get back the lost business."

B. C. Pulp & Paper Company has been one of the pioneers of the trans-Pacific trade in pulp. In the old days when the company was known as Whalen Pulp & Paper Mills the Japanese market was first being cultivated, and the company has never lost contact with that field.

Pacific Mills, Ltd., is another company that has been selling in Japan. Its sales manager, Harry C. Pim, left for Japan the day after the new agreement was signed, his job being to assure the company's old customers that Pacific Mills was still doing business at the old stand. A traveling companion was H. J. McKenzie, manager of the Export Sales Company, Vancouver, an organization supported by Powell River Company and other large pulp and paper interests on this coast to stimulate sales in the Orient. During his absence R. W. Foote is running the office in Vancouver for Mr. McKenzie.

As from the first of the year Canada discontinued the 33½ per cent surtax on Japanese imports and Japan abandoned its 50 per cent surtax on Canadian goods. Other concessions were also made by Canada, and the general feeling is that trade conditions between the two countries will soon resume a normal condition.

JAPANESE AGREEMENT UNSETTLES CANADIAN TEXTILES

The tariff truce with Japan which will probably result in increased importation into Canada of Japanese rayon has already had a disturbing effect on the textile industry of Canada and has caused those interested in establishment of rayon mills on the Pacific coast to regard the future with mounting trepidation. If rayon goods from Japan are permitted to undersell home manufacture, they fear, demand for Canadian rayon is sure to suffer.

The Canadian government has announced that it will undertake a thoroughgoing investigation into the effect of the Japanese tariff on the textile and related industries.

Dominion Textile Company of Canada, one of the largest textile concerns, temporarily closed down its rayon manufacturing unit as a direct consequence of the new tariff agreement with Japan. Textile manufacturers had been among the strongest advocates of continued high protection against Japanese goods, and lost out only when the national election resulted in defeat of the Bennett government, which stood for adequate duties to prevent Japanese competition, and victory for the Mackenzie King party, which stands for freer trade and required only a few weeks to change the whole Canadian tariff policy not only with respect to Japan but in relation to the United States and several other nations.

So far there have been few importations of rayon goods from Japan, but a large quantity is reported on its way across the Pacific as a result of the termination of the six months' tariff war. Quotations being received steadily at Vancouver on Japanese cotton cloths have unsettled the textile trade generally, and the prices for rayon goods have slumped to such a point that Canadian rayon manufacturers are now afraid to make goods that are unlikely to be sold. Buyers throughout Canada have restricted purchases since the new agreement with Japan was announced with the excuse that cheaper goods will soon be available. Several rayon mills are said to be contemplating shutdown, as the Dominion Textile has already done.

B. C. Pulp & Paper Company has produced some pulp that has been used in rayon manufacture in the east, but reports no change in the market during the last few weeks.

Those most likely to feel the consequences of the present uncertainty are the interests negotiating for establishment of new mills. Dai Thomas, Vancouver financier, is still negotiating with a view to building a mill for British rayon interests on Vancouver Island, and J. P. Meehan & Company, also of Vancouver, is still seeking waterpower rights at Cheakamus for the supply of hydro energy for a proposed rayon and general pulp mill in the lower mainland of British Columbia or at the northern tip of Vancouver Island, provided that power from Nimpkish or Campbell rivers is obtainable.

GREAT LAKES DISTURBING NEWS MARKET

Until the status of the Great Lakes Paper Company has been definitely determined, the newsprint market will probably remain unsettled, according to British Columbia newsprint manufacturers who have kept their ears close to the ground lately listening to reverberations in the industry in the east.

Regardless of whether the deal for reorganization of Great Lakes goes through, there will be considerable uncertainty about prices. It appears that the Gafassl-Aldrich group which signed a contract with National Trust Company, receivers and manager for Great Lakes, which stipulated that unless organization of the proposed new company was completed by April 1, 1936, "receiver is compelled to reduce price to \$2 a ton less than 1936 general market prices, with a minimum of \$39 per ton f.o.b. Chicago, and to make the reduction retroactive from January 1, 1936."

The sale cannot be completed until the company receives a license from the Ontario government. The Dominion gov-

ernment has already granted a charter and the transfer of assets is being effected, but minority bondholders have appealed the reorganization order and there may be more delays. Possibility that Great Lakes may ultimately make \$39 a ton the ruling price because of the fact that so many mills are obligated to meet the Great Lakes quotation has naturally caused a feeling of general uncertainty.

Pacific coast newsprint men, however, do not feel immediate alarm. It is the belief of A. E. McMaster, vice-president and general manager of Powell River Company, that most of the biggest newsprint consumers feel that the industry is well within its rights in asking the present \$41 a ton price, and that the tendency will be towards higher rather than lower prices in future.

"Everyone knows that even with the \$1 increase this year, newsprint mills have been able to do very little towards offsetting the constantly rising cost of production," said Mr. McMaster. "Most publishers are convinced they are getting good value for \$41."

On the other hand, reports have reached the coast that some newspaper publishers, faced with rising costs of their own, would welcome cheaper newsprint.

COAST NEWSPRINT PRICE \$41

The new \$41 a ton price for newsprint is now in general acceptance on the Pacific coast, it was announced at the offices of Powell River Company and Pacific Mills, Ltd., at Vancouver. The price, representing an advance of only one dollar over last year's figures, was set by mills in Eastern Canada following the closing of contracts with Hearst and Scripps-Howard papers, and the general supposition was that the coast mills would adopt the same price.

All British Columbia mills are now operating full time. B. C. Pulp & Paper Company's two pulp mills, at Woodfibre and Port Alice, are both in operation again, although extensive alterations are still being carried out.

DECEMBER NEWS PRINT STATISTICS

Production in Canada during December, 1935, amounted to 244,732 tons and shipments to 265,233 tons, according to the News Print Service Bureau. Production in the United States was 75,869 tons and shipments 78,076 tons, making a total United States and Canadian news print production of 320,601 tons and shipments of 343,309 tons. During December, 26,833 tons of news print were made in Newfoundland and 696 tons in Mexico, so that the total North American production for the month amounted to 348,130 tons. Total production in December, 1934, was 345,535 tons.

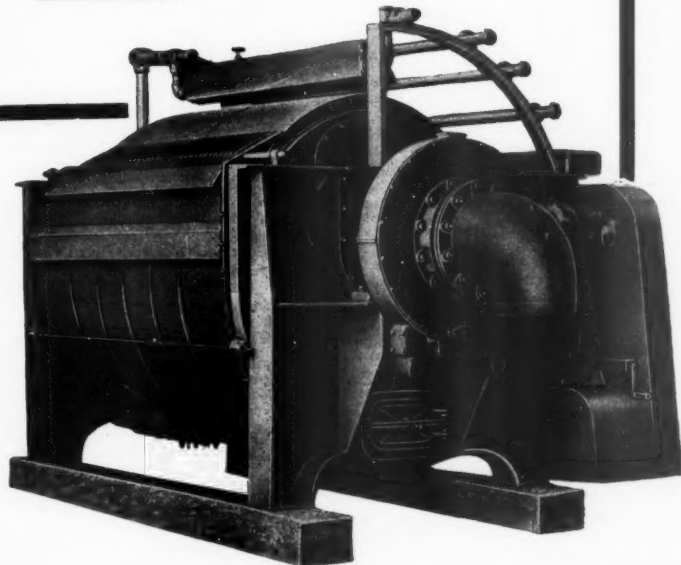
The total North American output of news print paper in 1935 was 4,021,462 tons, of which 2,753,289 tons was made in Canada, 912,392 tons in the United States, 335,720 tons in Newfoundland and 20,061 tons in Mexico. The Canadian output was 5.9 per cent more than in 1934, that in the United States 5.1 per cent less, with a gain of 6.2 per cent in Newfoundland and a 1.1 per cent loss in Mexico, making a total continental increase of 124,374 tons, or 3.2 per cent.

Stocks of news print paper at Canadian mills were reported at 30,138 tons at the end of December and at United States mills 10,266 tons, making a combined total of 40,404 tons compared with 42,169 tons on December 31, 1934.

9-2

THIS *Sure Is* WASHING EFFICIENCY

An Oliver-Young Bleach Washer for months averages 99.6/10% removal of chlorine from bleached stock. Results have been so consistently good that control tests on washing have been discontinued.



THERE, in a nutshell, is the reason why a well-known paper company has just placed its third order for the Oliver-Young Filter. The first unit, installed last spring, maintained from the start excellent washing efficiency; a second unit is about to go on the line. Now, the third washer has been ordered—a rubber-covered unit.

The Oliver-Young Filter is a free-flow machine. The water passes quickly through the wire cloth, through the unique valve into the

drum and out through the barometric leg. Washing efficiency, such as above, is high. Minimum water is used. This free flow also provides exceptionally high capacities in deckering and thickening.

In about a year and a half twenty-four Oliver-Young Filters have been installed. Each is giving excellent results. If you are washing or deckering free, chemical pulps in your mill, write for full details for using this proved cost-reducing filter.

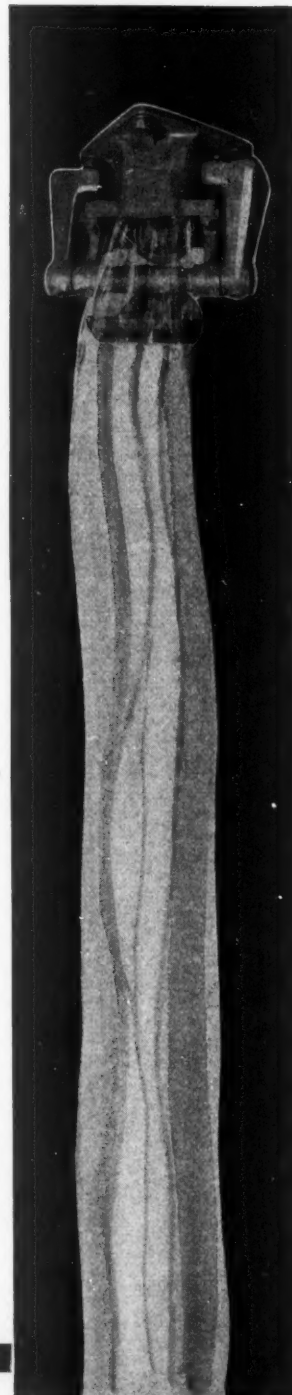
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TARIFF COMMISSION INVESTIGATORS ON COAST

Two field crews were sent to the Pacific Coast in January by the United States Tariff Commission to study the costs of pulp making as part of the broad investigation of all facts relating to foreign and domestic wood pulp and pulp wood, the causes and effects of foreign competition, and all other factors affecting foreign competition in United States markets.

The investigation is the result of a resolution introduced in the Senate by Senator Borah of Idaho and passed on August 24, 1935. The Borah resolution stated:

RESOLVED, That the United States Tariff Commission, under authority conferred by Section 332 of the Tariff Act of 1930, is directed to investigate and report to the Senate, all facts relating to wood pulp, or pulp wood, showing the volume of importations compared with domestic production, and the conditions, causes and effects relating to foreign competition, and all other facts showing the differences in, or which affect competition between, the production of wood pulp, or pulp wood, in the United States or that imported in the principal markets of the United States.

The field crews will be headed by

Joseph Donohoe and L. A. Morrison. They will start working in San Francisco and then proceed northward visiting all pulp plants. Data will be obtained in two ways, by actual plant study and from company records. Approximately a month will be spent in obtaining this information.

In its annual report to Congress the United States Tariff Commission mentioned the work being done on the wood pulp and pulp wood survey and included a few facts already obtained.

The report ended with the following statement:

"The commission's investigations cover not only the data of pulp mills but also data regarding consumption and prices of the various kinds of pulp used by the paper and board mill. Costs of production by kinds of pulp will be obtained for representative mills in each of the producing areas of the United States, including the Pacific Coast. A careful analysis of invoices, sales prices, and distribution of the imported pulp will be made.

"Although the commission now has in the field a large crew making these investigations, it will be several months before the information can be obtained, tabulated and summarized."

FRANK BUCKLEY GOES TO EUROPE

British capital may become associated with the Prince Rupert pulp mill enterprise as a result of the present trip to Europe of Frank L. Buckley, managing director of Canadian-American Pulp & Paper Company.

At Mr. Buckley's office in Vancouver, B. C., it was stated that present plans call for a commencement of construction by May 1 and it is hoped that all financing details will be worked out by the end of the present month. Mr. Buckley will be back in Vancouver early in March.

Mr. Buckley stated before leaving for England that he hoped to interest some eastern Canadian capitalists in the enterprise, and in view of the known interest of British rayon manufacturers in pulp production in British Columbia he probably considered it worth while to make the Atlantic crossing.

LONGVIEW FIBRE ADDING TO WOOD ROOM

The Longview Fibre Company of Longview, Washington, is adding to its wood room capacity through the installation of an additional chipper, drum barker and other equipment.

Operation of the new cleaning and chipping machinery will start the latter part of March.

HIGH WATER SHUTS DOWN WEST LINN

The high water in the Willamette River early in January shut down most of the operations at the West Linn mill of the Crown-Willamette Paper Company for several days. The grinders resumed operations January 17th. Paper machines number 4 and 7 operated continuously. Machines 5 and 6 resumed at midnight of the 17th and number 9 started again at noon that day.

REPUBLICANS TO WIN, WILEY SAYS

R. A. "Bob" Wiley, former county tax assessor, left his pulpwood show on the Humptulips in order to make a special trip to Hoquiam and Aberdeen to tell his friends the Republican party would make a clean sweep in the state of Washington at the next elections. All the Republicans need do, he said, is to nominate anybody but Hoover for the presidency. That Wiley would take an active part in the coming campaign was indicated by his assertion that he had five red hot speeches he would soon deliver.

SUPERINTENDENTS PLAN FOR NATIONAL CONVENTION

Plans are being made by the American Pulp & Paper Mill Superintendent's Association for the annual convention to be held this year at the Hotel Pantlind, Grand Rapids, Michigan, June 24, 25 and 26th.

Mr. F. L. Zellers is general chairman of the 1936 meeting and he has selected the following men as chairmen of subcommittees for organizing the meeting:

Program and Papers—Mr. A. L. Sherwood, Sutherland Paper Co.

Mill Visits—Mr. J. A. Wise, Kalamazoo Paper Co.

Finance—Mr. F. G. French, French Paper Co.

Registration and Exhibits—Mr. Dan Stacy, American Box Board Co.

Transportation—Mr. O. F. Fischer, Bryant Paper Co.

Sports—Mr. C. F. Sisson, Mac Sim Bar Paper Co.

Ladies Entertainment—Mrs. Paul Fortier.

Entertainment—Mr. Francis D. Bowman, Carborundum Corp.

Publicity—Mr. Joe L. Hodgins, the Paper Mill.

Executive Secretary—Mr. S. R. Atkinson, Niles, Mich.

KRAFT WRAPPING IMPORTS INCREASE

In his report December 12th to the executive committee of the American Paper & Pulp Association, Mr. Warren B. Bullock, manager of the Import Committee, said in part:

"As to what these reciprocal trade agreements are doing, we can cite the figures of kraft wrapping. Imports of kraft wrapping during 1934 totaled 4,000 tons. Imports for the first ten months of 1935 total about 8,000 tons, and of this amount nearly 4,000 tons, equivalent to the total for 1934, have been imported since the Swedish Trade Agreement reduced the duty. Of these 4,000 tons nearly 2,000 tons were imported in October. The same proportion of increase applies to sulphite wrapping papers. Imported vegetable parchment reduced in duty by the Belgian Trade Agreement is now being sold at two cents less than the American price, which has been reduced to cost or less. As a result of the Canadian Trade Agreement, Finland is offering pulpboard in rolls for the manufacture of wallboard at very low prices."

"THOSE TRADE PACTS"

From an editorial in the Seattle Post-Intelligencer for January 29, 1936, we quote:

"How America's trade agreements operate is well illustrated by the Greek steamer 'Mount Pera,' now on its way here laden with Argentine corn.

"After discharging its cargo of corn, which well might have been grown in the United States, the freighter will shift to British Columbia ports to lift a full cargo of lumber.

"The lumber is not destined for Argentina, Greece or any other foreign country, but for the eastern coast of the United States.

"Unhampered by American laws governing the wages of seamen, the Greek steamer can carry cargo at lower rates than American ships.

"The lumber from British Columbia, produced by cheaper labor and carried at cheaper freight rates, will compete in American markets which otherwise would be served by Washington and Oregon.

"Operation of the trade agreements assumes the dimensions of a whipsaw—we lose both ways, going and coming."

GRAYS HARBOR PULP EXPORTS INCREASE

According to the report of the Port of Grays Harbor exports of pulp and paper to Japan in 1935 totalled 19,433 tons as compared with 4,280 tons in 1934, an increase of 15,153 tons.

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PACKER-SCOTT BUYS
NEW HOME

Due to expansion of business and the desire to give the best of service, the Packer-Scott Company, Portland, according to a statement to Pacific Pulp & Paper Industry by Vernon Scott, president, has acquired a new warehouse and office building at S. W. 1st Avenue and Ankeny. This property, a four story building, with 100 foot frontage on each street, is a substantial, commodious structure with approximately 50,000 square feet of floor space.

The company is already using this building as a warehouse and will move its offices and all of its stock to the building as soon as possible. Some remodeling is being done, though the building was well adapted to the jobbing of paper and paper products. Facilities include two elevators, loading platforms, steam radiation and forced conduit ventilation. The price paid for the building was \$30,000.

The Packer-Scott Company of Oregon, doing a wholesale jobbing business in paper, twine, rope, and janitor supplies, was established in 1920 by C. M. Packer and Vernon Scott. In 1929 Mr. Scott purchased Mr. Packer's interest and since that time has been gradually expanding the business, with branch offices and warehouses in Eugene and Klamath Falls.

"We made our purchase after careful analysis of business conditions," said Mr. Scott, "and we are convinced that our expansion for 1936 is timely." Other officers of the company are: Vice president, A. E. Hansen; vice president, R. D.



VERNON SCOTT
President, Packer-Scott Company

Finch; Geo. W. Hoyt, Jr., secretary-treasurer.

Several new lines will be added, but all details of this expansion have not been worked out.

DATE SET FOR
PAPER TRADE CONVENTION

The dates of Thursday, Friday and Saturday, May 14, 15 and 16, have been set for the nineteenth annual convention of the Pacific States Paper Trade Association this year at Del Monte. Louie A. Colton of the Zellerbach Paper Co., San Francisco, is chairman of the program committee and it is likely that the mill men's golf tournament, held in connection with the trade convention, will be handled by the same committee as last year, with G. J. Ticoulet, Crown Willamette Paper Co., San Francisco, as chairman.

President of the association is Carl H. Fricke, Taverner & Fricke, Los Angeles paper jobbers and executive first vice-president is G. O. Rogers, Spokane Paper & Stationery Co., Spokane. It is the custom to elevate the executive first vice-president to the presidency at each convention.

During the nineteen years in the association's history, it has been directed by thirteen presidents, the late Marvin R. Higgins having served six terms, in 1918, 1923, '24, '25, '26 and '27. The first president, in 1917, was the late C. L. Bonestell. Other presidents and the years they served were Wm. Henry, '19; Otto W. Mielke, '20; Frank C. Stratford, '21; Thos. H. Doane, '22; F. M. Couch, '28; W. D. McWaters, '29; E. A. Doran, '30; G. I. Tompkins, '31; Harold L. Zellerbach, '32; Arthur W. Towne, '33, and Charles H. Beckwith, '34.

GENERAL PAPER

General Paper Co. has rearranged its San Francisco headquarters so as to give private offices to President Charles M. Paganini and General Manager H. D. Bean.

WHITELEY VISITS COAST

Mr. Fred A. Whiteley, western sales manager of the Howard, Aetna and Maxwell Paper Companies of southern Ohio, was a Pacific Coast visitor the latter part of January.

Mr. Whiteley first contacted the Blake, Moffitt & Towne office in Seattle and then traveled south returning to his office in Chicago after having spent several days in Los Angeles.

Blake, Moffitt & Towne are Pacific Coast distributors for the Howard, Maxwell and Aetna Paper Companies papers.

NORTHWEST PAPER SALES COMPANY MOVES

The Northwest Paper Sales Company of Portland has changed the location of its principal office from Portland to Seattle, according to notice the company recently filed with the Secretary of State of Oregon.

RODIER RETURNS

Geo. L. Rodier, San Francisco, West Virginia Pulp & Paper Co., returned to the mainland in February from a trip to Hawaii.

B. M. & T. SALES MANAGERS MEET

A general meeting of printing and wrapping paper sales managers of Blake, Moffitt & Towne, coastwise paper distributors, was held at San Francisco, January 20, 21 and 22. Those in attendance were J. K. Moffitt, Otto W. Meike, Arthur W. Towne, James W. Towne, James Gruner, Walter Busse and Reeves T. Watson of the San Francisco office; T. M. Dennison and L. C. Connor, Los Angeles; J. H. Leatherman and J. C. Whitelaw, Seattle; L. V. Hall, Tacoma; A. Z. Sherrig and F. Inkster, Portland; F. L. Unthank, Oakland; Harry White, Sacramento; L. M. Heath, Stockton; W. E. Stephenson, San Jose and B. M. Hoblick, Fresno.

The meeting consisted largely of round robin discussions of sales problems and the laying of sales plans for 1936. A luncheon meeting was held on the last day and was addressed by Arthur W. Towne, who told of the firm's history and of its pioneering days and displayed a number of old lithographs showing scenes in San Francisco and Los Angeles back in the fifties, when the house was started.

COLSON NAMED SAN DIEGO MANAGER

Roger Colson has been named manager of the San Diego division of Blake, Moffitt & Towne and will have charge of wrapping paper sales there. Harold J. Whisnand is to have charge of printing paper sales. Mr. Colson succeeds W. T. Rounsefell, resigned.

DUNN TAKES A REST

Mr. H. Arthur Dunn, secretary of the Pacific States Paper Trade Association, left San Francisco with Mrs. Dunn January 31 on a vacation cruise to Panama.

DELANEY COVERS ALASKA

Ed Delaney is a paper salesman with probably the world's largest one-man territory—all of Alaska. Ed represents Carter, Rice & Co., paper jobbers, in Alaska, lives in Juneau, and covers the entire area by airplane, going as far north as Nome on occasion. In the winter he sometimes makes his trips by dog team. He wears native parkas in the winter and the accompanying photograph shows him in native costume standing beside a small whale in Kotzebue Sound. C. H. Beckwith, San Francisco, Carter-Rice Pacific Coast manager, didn't know if Ed caught the whale or not. Delaney spent several weeks in San Francisco recently thawing out.

**ZELLERBACH AWARDS SERVICE PINS**

Service pins were awarded recently by the Zellerbach Paper Co. recently to:

O. C. Sayles, wrapping paper manager, Portland, 15 years.

Felix Cohn, sales department, San Francisco, 25 years.

Fred Sidari, operating department, San Francisco, 20 years.

W. R. McWATERS RETURNS TO PORTLAND

W. R. McWaters has returned from the New York office of National Paper Products Co. to Portland to resume his post in the Zellerbach Paper Co division office there, of which his father, W. D. McWaters, is manager.

SHELBURNE WINS MENTION

Jack Sheburne of the Fresno office of Zellerbach Paper Co. won favorable mention in a Hammermill Paper Co. ad writing contest.

HOLLAND PROMOTED

Philo Holland, formerly operating manager of the Zellerbach Paper Co. in Los Angeles division, has been promoted to be assistant manager. L. T. Bleasdale has left the operating department in Los Angeles to become manager of the purchasing department.

MISS YETT LEAVES PELICAN

Ten years of service with the Pelican Paper Co., San Francisco, was ended recently for Miss Rebecca Yett, cashier, when she resigned on account of illness. Miss Yett intends to go to Vienna for an operation. Her place has been taken by Miss Helen Lawley.

PELL SHOWING NEW MOVIES

A new travel picture, "Rainbow Isles of the South Seas", is being shown at San Francisco bay organization meetings by Rodman C. Pell, Jr., president of the Pelican Paper Co., San Francisco. This film, in color, was taken by Mr. Pell on a trip last fall to the south Pacific. He is now talking of a picture-taking trip to the magic isle of Bali.

B. M. & T.'S NEW SLOGAN

"... and be sure to use a Blake, Moffitt & Towne paper", is the 1936 slogan of Blake, Moffitt & Towne, Pacific Coast paper distributors. The slogan is the idea of Reeves T. Watson, San Francisco, the firm's advertising manager. It will be used on their trucks, blotters, periodical advertising and tape.

**LEW GRONICH NEW GENERAL PAPER L. A. MANAGER**

"Dependable Lew" Gronich has disposed of his interest in the Dependable Paper Company, and has been appointed manager of the General Paper Company's Los Angeles Division.

Commenting on this change, Mr. Gronich, who is considered one of the most popular personalities in the Southern California paper trade, merely stated: "They used to call me 'Dependable' Lew—now they can call me 'General' Lew. I suppose you still got to be dependable to be a general, so what's the difference?"

Mr. Gronich further stated: "General Paper Company is a grand institution and my position there holds a great opportunity and permits me to be of real service to the printing industry. Paper must really be merchandised like every other commodity, but because of its great volume the merchandising angle from the progressive imaginative standpoint has been somewhat neglected.

"We are truly able to now call ourselves a paper house that gives 'Complete Paper Service,' since we have added to our fine paper lines a coarse paper department, second to none on the coast. We have filled in our stationery department and school supply lines with such merchandise as will reflect only the high standing of our institution.

"Having been a printer, I feel fully qualified to understand the many problems to which printers, both large and small, are heir. Having been in the newspaper and publishing field, I believe I can talk their language as regards their needs."

JAMES IGSTADTER

James Igstadter, assistant manager of the San Francisco division of the Zellerbach Paper Co., died January 6 after an extended illness, aged 51. "Jimmie" Igstadter had been with the Zellerbach company since 1900 when he went to work as an errand boy. He was named sales manager of the printing paper department of the San Francisco division in 1918 and later made assistant manager. He leaves a widow. Mr. Igstadter had friends everywhere on the Pacific Coast and his passing is a matter of great regret.

LOS ANGELES PAPER MILL MEN'S CLUB MEETS

There's one thing that can be said for the Paper Mill Men's Club of Los Angeles, and that is that when they do something, they always do it well. Be it a business meeting, a hi-jinks for the jobbers, or a semi-monthly social gathering, it's done in a style that brings the members back for more next time.

On the evening of Jan. 30, the mill men gathered at Omar's Dome, swanky night center in downtown Los Angeles, for an evening of sociability. It is perhaps best described by the advance announcement that was sent out by the January committee, Warren Dunnell, chairman, Art Kern, Cort Major and Art Carlson.

It said, in part: "We have had stags and stags, and then again, stags . . . Ours is a cosmopolitan crew with tastes that run the entire scale. We have experimented thoroughly, and are still uncertain of a majority vote for the peepul's choice. A conference of the best brains of our organization, which included one theologian, one psychiatrist, one alien, one biologist and Neil Sinclair, has arrived at a solution. Charles Evans Hughes and his black robed worthy associates could have done no better. Weeks of deliberation have produced plans for a stag that will have a little bit of everything. Come, pick your choice. Something to satisfy everyone. . . ."

"The Coca Colas are on the committee, if we don't satisfy a larger majority than ever before.

"Come all ye peddlers and judge for yourselves."

They all came, nearly 60 of them, they judged, and not a Coca Cola did the committee have to buy.



The club celebrated its first birthday that night, it having been just one year ago that the first organization meeting was held, with 26 present. Since that time it has consistently grown in membership, and has been an increasingly important factor in the establishment and maintenance of the good relations that exist in the trade.

Among the guests present were Frank Vaughn of the Bay West Paper Co., from Green Bay Wisconsin, and Charles Catlin, San Francisco, representative of the same company. Another was R. A. McDonald, vice president in charge of mill sales for the Crown Zellerbach Corp. Still another new face was that of Wm. H. Heitman, from Detroit, who has come to Los Angeles to succeed W. E. Collins, who has resigned from the Northern Paper Mills. And last but not least, V. B. Whedon had as his guest, his father, who was for years secretary-treasurer of the Tuttle Press Co.

The February meeting will be a noon business session, probably near the end of the month.

COUCH TAKES SEA TRIP

F. M. Couch, who recently retired as manager of the Los Angeles branch of Blake, Moffitt & Towne, made it a clean break from business worries last month by taking a trip to Panama.

HEITMAN TO REPRESENT

Wm. H. Heitman, formerly of Detroit, arrived recently in Los Angeles to become representative of the Northern Paper Mills. He succeeds W. E. Collins, who says he has been resigning since last May, and is now getting away to follow out other plans, so far not announced.

VAUGHN OF BAY WEST ON COAST

Frank Vaughn of the Bay West Paper Co., Green Bay, Wis., has been spending some time on the Coast in recent weeks, making the rounds with his San Francisco man, Charles Catlin.

ROSENFELD MOVES TO COAST

H. T. Rosenfeld, formerly with Continental Paper & Bag Co., New York, is now associated with the Los Angeles Paper Bag Co. as manager of sales.

CARTER, RICE IN NEW SAN FRANCISCO LOCATION

San Francisco headquarters of Carter, Rice & Co., paper jobbers, are now in a new location, 200 Mission St., corner of Main, where Manager Charles H. Beckwith and his staff have better than 32,000 square feet of space. There are three stories, a basement and two mezzanine floors and a lot of light, from its two corner frontages. Mr. Beckwith and N. D. Hopkinson, sales manager, have private offices. Two big elevators and loading doors help facilitate handling of the stocks.

SIMPSON HONORED

J. E. Simpson, Boise manager for Blake Moffitt & Towne, paper distributors, has been elected to the board of directors of the Boise Chamber of Commerce.

HEAD VISITS LOS ANGELES

Neal Head, assistant to A. R. Graustein when he was president of the International Paper Co., New York, was in Los Angeles near the end of January for a short visit.

BROUSE LOOKS OVER MEXICO

Charles Brouse, Los Angeles manager for the Pacific Waxed Paper Co., spent three weeks in Mexico City over the Christmas holidays, on both business and pleasure. While there, he looked into the possibilities of entering the waxed paper market there.

BUIST ACQUIRES CROCKER-BURBANK BOOK LINE

Norman Buist, Los Angeles mill man who handles gummed paper, etc., has acquired the line of Crocker-Burbank book paper for the Pacific Coast. This is an old and well known firm and never has had a Pacific manager before. Mr. Buist left Los Angeles Jan. 25 for Seattle, intending to cover all intermediate points.

ROMINGER JOINS CARTER RICE

H. H. Rominger, formerly in charge of the Ingram Paper Co. twine department in Los Angeles, has resigned to go to San Francisco, where he heads the twine department for Carter, Rice & Co.

WHY

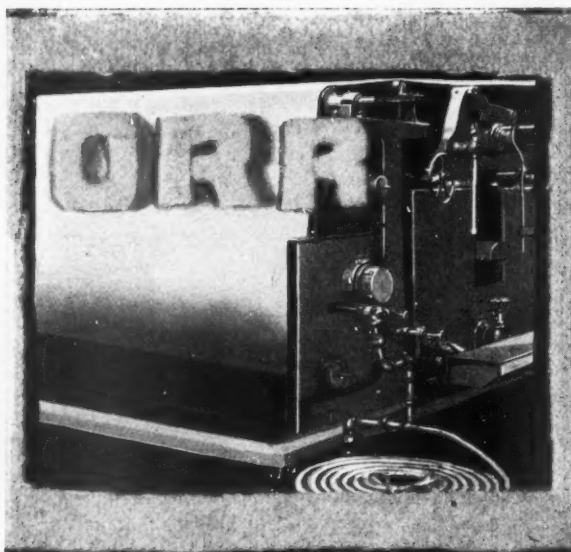
Good Lighting Pays in Industry

Adequate Plant Lighting speeds production, simplifies exacting eye-work and reduces waste and spoilage.

One of our trained Lighting Engineers will gladly call and analyze your lighting facilities.

Puget Sound Power & Light Company

"To Best Serve the
Public Interest"



Clipping the Corners Off the Felt Bill

It is rather significant that recent tests should show Orr Felts outlasting felts with which they were compared—outlasting them, not by hours, but by as much as several days.

Figured over a year's operation, such a difference in durability takes on deep significance—points the way for those interested in curtailing expense wherever it can be sensibly done.

Clipping the corners off felt bills by adopting the particular felt that will deliver the greatest service is well worth the consideration of any mill—and is now receiving that consideration in many of them.

Orr Felts are built to remove water faster and serve longer. They are available in any texture and any size you may require.

A complete line — An Orr for every machine requirement.

Pacific Coast Representative: WALTER S. HODGES
414 Terminal Sales Bldg., Portland, Oregon

The Orr Felt and Blanket Company

PIQUA, OHIO

JAPANESE PAPER COMPANY TO INCREASE ITS CAPITAL TO 300,000,000 YEN

The Oji Paper Manufacturing Co., leading producers of paper in Japan, at its directors' meeting on December 7, 1935, adopted a plan calling for an increase of its subscribed capitalization from 149,988,000 yen (of which 130,952,000 is paid up) to 300,000,000 yen, and for contributions of 5,000,000 yen to the public and 5,000,000 yen to improve the status of its employees. The plan was submitted to an extraordinary meeting of the shareholders on December 24, 1935.

By this move the Oji Paper Manufacturing Co. will become one of the four largest Japanese business institutions. In 1933 the company absorbed two other large companies, at which time it had debts amounting to 300,000,000 yen. It has repaid 83,000,000 to date, and with the new funds raised will pay off its heavy debts in addition to undertaking the operation of a large scale rayon plant. The company has realized an annual profit of around 35,000,000 yen and has been declaring an annual dividend of 10 per cent, which it is anticipated will be continued.—Assistant Trade Commissioner Carl H. Boehringer, Tokyo.

NEWSPRINT MILL TO BE CONSTRUCTED AT WENCHOW

Plans for the construction of a \$1,327,000 plant at Wenchow, Chekiang Province, China, have been submitted to the Ministry of Industry, and have received its approval, according to announcements recently appearing in the Chinese press. Plans for the mill have been drawn up by a British engineer, and it is expected that 80 per cent of the capital will be raised through a loan from the British Boxer Indemnity Fund. After a thorough investigation by experts, Mawan on the Ou-kiang, about 20 miles from the city of Wenchow, has been chosen as the ideal site for the plant, which will consist of a newsprint and wood pulp mill. British machinery will be used in the mill.

Suitable wood for the making of paper is abundant in the surrounding districts. The principal variety found here is China fir, with liushan and pine coming next in importance.—Consul General Edwin S. Cunningham, Shanghai.

FLOW METER ANNOUNCED BY BRISTOL

Employing the widely accepted orifice and mercury manometer system of flow measurement, the new instrument recently announced by The Bristol Co., Waterbury, Conn., is claimed to meet the needs of industry for a rugged, accurate and reasonably-priced mechanical flow meter. It is designed to give precision measurement under severe field conditions.

According to the manufacturer, the following features are to be noted:

Meter body is of forged steel. Uniform areas of cross-section in mercury chambers contribute to accuracy and interchangeability.

Small changes in mercury volume incidental to capillarity and adhesion do not affect accuracy.

Unlike gears or chains, the long float lever arm connecting the large powerful float to the pen arm assures both hair-line sensitivity without jumping and sustained accuracy.

Connections are welded or mechanical. Parts are counter-balanced.

Working parts permit cleaning without danger of disturbing calibration.

Hardened stainless steel stuffing box is lapped to the shaft. Grease-packed, it is absolutely leak-tight. Neither glands nor packing washers are necessary.

Different ranges of operation are made possible by changing either the size of the orifice, the high pressure leg of the manometer, or both.

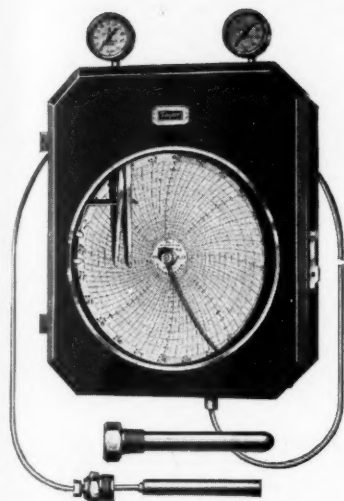
Integrator is positive in action; and is so designed as to eliminate the need for friction contacts and friction clutches.

Check valves, operating by gravity, prevent the loss of mercury. Meters for working pressures of 1,000 lbs. are tested at 2,000 lbs. Special bodies tested at 5,000 lbs. are obtainable for working pressures up to 3,000 lbs.

Meters are available as indicators, integrators, recorders or controllers. Recorders can be furnished with pressure and temperature elements. Integrating flow meters are obtainable either with or without automatic compensation for fluctuations in static line pressure.

Meters are suitable for use with either orifice plates or venturi tubes.

With Bristol's metameter, this new flow meter can be supplied as an electric flow meter for remote reading.



TAYLOR "THERMOSPEED" SEPARABLE WELL TUBE SYSTEMS

A separable well is required on many temperature measurement and control applications to protect the temperature-sensitive bulb from corrosion or erosion, to give it adequate support, or to permit the removal of the bulb at any time without interrupting the processing.

The extra thickness of metal and the inevitable dead air space between the well and bulb have always caused a substantial delay or lag in transmitting a change in temperature of the bulb. On applications having small time lags and heat capacities and where temperatures fluctuate rapidly this sluggishness of response

greatly affects the performance of the instrument.

After months of intensive research on this problem, the Taylor Instrument Companies now claim to have perfected a separable well tube system, known as the "Thermospeed," having a speed response closely approaching that of their extremely fast bare bulb tube systems. Laboratory and field tests indicate that the response due to this new construction is approximately six times faster than the average separable well tube system now in service; and almost twice as fast as separable well thermocouples.

The manufacturer looks upon the "Thermospeed" construction as the most important advancement in tube system design in recent years. It gives speed where it is vitally needed. It means that a dial or recording thermometer so equipped will be extremely accurate in indicating every temperature variation. It assures closer regulation from Taylor controllers because the corrective action of the controller occurs at the slightest tendency of a departure from the control point.

JAPAN'S IMPORTS OF WOOD PULP LARGER DURING 1935

November imports of wood pulp, amounting to 19,972 short tons, included 10,662 tons for the use of paper manufacturers and 9,310 for rayon production. While November imports of wood pulp were 3,544 tons under those for the preceding month, it should be noted that the October importations were unusually large. The United States supplied 7,865 tons, or 39 per cent of the November receipts. Total imports during the first 11 months of 1935 amounted to 276,739 tons, an increase of 32 per cent over the

corresponding period in 1934. (Office of the American Commercial Attache, Tokyo)

LARGE SWEDISH SULPHATE MILL BEING ENLARGED

Stora Kopparbergs Bergslags A/B has commenced the rebuilding and enlarging of its sulphate pulp plant at Skutskar. This will step up the annual productive capacity from 26,000 metric tons to 50,000 metric tons. The foundations for a new digester section are being laid, and new diffuser and screening departments together with wood cleaning department, the latter with chippers and chip silos, will be built according to present plans. The new equipment is expected to be ready for operation toward the end of 1936. The company manufactures both unbleached and bleached sulphate pulp. —Trade Commissioner Basil D. Dahl, Stockholm.

COMPANY TO ERECT MODERN PAPER MILL IN MEXICO

It is the intention of the company to erect a modern paper mill for the manufacture of newsprint, book paper, and even cigarette paper. A large staff of engineers and technicians is now studying the sources of raw material, water power, etc., for the purpose of determining the location of the mill. Experiments have shown that satisfactory materials for the manufacture of pulp suitable for newsprint exist in the states of Chihuahua and Durango. "Carricillo" (bamboo), found in the states of Michoacan and Guanajuato is declared suitable for the manufacture of better grades of paper. (Commercial Attache Thomas H. Lockett, Mexico City)

KEEPING PACE

with the progress of the Paper Industry is a task that demands continual research, experimentation and development.

We consider this part of our work just as important as the maintenance of a high standard of quality in the production of Appleton Fourdrinier Wires.



APP-WELD
PATENTED
SEAMLESS
JOINT

APPLETON
PHOSALLOY
WIRES

APPLETON WIRE WORKS, INC., APPLETON
WISCONSIN



And Hamilton Felts lead in quality, economy, and better results every month in the year. Constant, dependable performance is what marks a leader; and what makes a leader is the almost inconceivable care and attention to every detail. For example, in weaving Hamilton Felts, there must be so many threads to the inch according to the type of felt. Every three feet, as the felt is being woven, the weaver measures off a certain distance and counts the threads, marking the place with blue yarn. These measurements in turn, are checked by an inspector in an entirely different department. Since 1858—for 78 years—this exceeding care, this extra effort has characterized every Hamilton Felt. The result is: Better paper in greater tonnage at lower cost. Try a Hamilton Felt and see for yourself.

SHULER & BENNINGHOFEN
HAMILTON, OHIO

Miami Woolen Mills, Established 1858

Hamilton
Felts



ROBERTS BURRS

Made by a New and Patented
Heat Treatment

*Exclusively Used by Roberts
In Making the*

New "Hard-n-Tuff" Burrs

The new process of heat treatment produces a diamond hard tooth, which will **OUTWEAR ANY OTHER BURR.**

Although extremely hard the tooth will not shear off, for toughness is not sacrificed for hardness.

It is common practice to dress 25% to 50% more times with **ROBERTS hard-n-tuff BURRS** than is possible with any other burr.

F. W. Roberts Manufacturing Co.
LOCKPORT, NEW YORK

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**PACIFIC COAST
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